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SEQUENCE LISTING
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```
<110> Saxon, Andrew
Zhang, Ke
Zhu, Daocheng
```

<120> FUSION MOLECULES AND TREATMENT OF IGE-MEDIATED ALLERGIC DISEASES

<130> UC67.002A

<160> 177

<170> FastSEQ for Windows Version 4.

<210> 1

<211> 696

<212> DNA

<213> Homo sapiens

## <400> 1

gaggccaaat cttgtgacaa aactcacaca tgcccaccgt gcccagcacc tgaactcctg 60 gggggaccgt cagtcttect cttecccca aaacccaagg acacctcat gatctcccgg 120 acccctgagg tcacatgcgt ggtggtggac gtgagccacg aagacctga ggtcaagttc 180 aactggtacg tggacggtg ggaggtgcat aatgttaaga caaagccgcg ggaggagcag 240 tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgfcc tgcaccagaa ctggatgaat 300 ggaaaggagt acaagtgcaa ggtctccaac aaagccctcc cagccccat cgagaaaacc 360 atctccaaag ccaaagtgca ggcccgagaa ccacaggtgt acacctgcc cccatcccgg 420 gatgagctga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctatccaac 480 gacatcgccg tggagtggga gagcaalggg cagccggaga acaactacaa gaccacgcct 540 cccgtgctgg acctcgctg tccttctatgc tccgtgatgc atgaggctct ggaccaaccac 660 taccagcaga ggagcctctc cctgtctccg ggtaaa

<210> 2

<211> 330

<212> PRT

<213> Homo sapiens

## <400> 2

Lys Pro Lys Asp Th $^{t}_{r}$  Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys

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140
                        135
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Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asm Trp
                                        155
                    150
Tyr Val Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu
                                    170
Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr/ Val Leu
                                185
           180
His Gln Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Vall Ser Asn
                            200
                                                205
Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ála Lys Val
                                            220
                        215
Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
                    230
Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
                                    250
                245
Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly/Gln Pro Glu Asn
                                265
           260
Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe
                            280
Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
                                            300
                        295
Val Phe Ser Cys Ser Val Met His Glu Ala Leu/His Asn His Tyr Gln
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                                        315
Gln Arg Ser Leu Ser Leu Ser Pro Gly Lys
            325
<210> 3
<211> 232
<212> PRT
<213> Homo sapiens
<400> 3
Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
                                    10
Pro Glu Leu Leu Gly Gly Pro Ser Val/Phe Leu Phe Pro Pro Lys Pro
                                25.
Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
                            40
Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
Asp Gly Val Glu Val His Asn Val/Lys Thr Lys Pro Arg Glu Glu Gln
Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
                                105
Leu Pro Ala Pro Ile Glu Lys/Thr Ile Ser Lys Ala Lys Val Gln Pro
                            120
Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
                        13′5
                                            140
Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
                    150
                                        155
Asp Ile Ala Val Glu Trp/Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
                                    170
                165
Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe Leu Tyr
                                185
            180
```

```
Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Ahe
                            200
                                                 205
        195
Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gl/n Arg
                                             220
                        215
Ser Leu Ser Leu Ser Pro Gly Lys
<210> 4
<211> 1445
<212> DNA
<213> Homo sapiens
<400> 4
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gccacctccg tgactctggg ctgcctggcc acgggctact tccdggagcc ggtgatggtg 120
acctgggaca caggetecet caacgggaca actatgacet tacm{k}agecae caeceteaeg 180
ctctctggtc actatgccac catcagcttg ctgaccgtct cgggtgcgtg ggccaagcag 240
atgttcacct gccgtgtggc acacactcca tcgtccacag actgggtcga caacaaaacc 300
ttcagcgtct gctccaggga cttcaccccg cccaccgtga adatcttaca gtcgtcctgc 360
gacggcggcg ggcacttccc cccgaccatc cagctcctgt gctcgtctc tgggtacacc 420
ccagggacta tcaacatcac ctggctggag gacgggcagg #catggacgt ggacttgtcc 480
accgcctcta ccacgcagga gggtgagctg gcctccacac haagcgagct caccctcagc 540
caqaaqcact qqctqtcaga ccgcacctac acctgccagg/tcacctatca aggtcacacc 600
tttgaggaca gcaccaagaa gtgtgcagat tccaacccga/gaggggtgag cgcctaccta 660
ageoggecea geoegttega eetgtteate egeaagtegq eeaegateae etgtetggtg 720
gtggacctgg cacccagcaa ggggaccgtg aacctgacct ggtcccgggc cagtgggaag 780
cctgtgaacc actccaccag aaaggaggag aagcagcg\phi_a atggcacgtt aaccgtcacg 840
tccaccctgc cggtgggcac ccgagactgg atcgagggggg agacctacca gtgcagggtg 900
acceaecce acetgeecag ggeecteatg eggteeacga ccaagaccag eggeeeget 960
gctgccccgg aagtctatgc gtttgcgacg ccggagt∮gc cggggagccg ggacaagcgc 1020
accetegeet geetgateea gaactteatg eetgaggaca teteggtgea gtggetgeae 1080
aacgaggtgc agctcccgga cgcccggcac agcacgacgc agccccgcaa gaccaagggc 1140
teeggettet tegtetteag eegeetggag gtgaceaggg eegaatggga geagaaagat 1200
gagttcatct gccgtgcagt ccatgaggca gcgagqccct cacagaccgt ccagcgagcg 1260
gtgtctgtaa atcccggtaa atgacgtact cctgc¢tccc tccctcccag ggctccatcc 1320
agetqtqcaq tqqqqaqqae tggccagaee ttetgtecae tgttgcaatg accccaggaa 1380
gctaccccca ataaactgtg cctgctcaga gccc\phiagtac acccattctt gggagcgggc 1440
                                                                   1445
agggc
<210> 5
<211> 427
<212> PRT
<213> Homo sapiens
<400> 5
Ser Thr Gln Ser Pro Ser Val Phe Pro Leu Thr Arg Cys Cys Lys Asn
                                    10
Ile Pro Ser Asn Ala Thr Ser Val /Thr Leu Gly Cys Leu Ala Thr Gly
Tyr Phe Pro Glu Pro Val Met Va∤ Thr Trp Asp Thr Gly Ser Leu Asn
                                                 45
Gly Thr Thr Met Thr Leu Pro A∤a Thr Thr Leu Thr Leu Ser Gly His
Tyr Ala Thr Ile Ser Leu Leu ‡hr Val Ser Gly Ala Trp Ala Lys Gln
                                        75
Met Phe Thr Cys Arg Val Ala/ His Thr Pro Ser Ser Thr Asp Trp Val
```

```
90
                85
Asp Asn Lys Thr Phe Ser Val Cys Ser Arg Asp Phe Thr Pro Pro Thr
                                 105
            100
Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly His Phe/Pro Pro
                            120
Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro GAy Thr Ile
                                             140
                        135
Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val/Asp Leu Ser
                                         155
                    150
Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu
                                     170
Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp Arg/Thr Tyr Thr Cys
                                 185
Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Seft Thr Lys Lys Cys
      . 195
Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr ≠eu Ser Arg Pro Ser
                        215
                                             ′220
Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val
                    230
Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg
                245
                                     250
Ala Ser Gly Lys Pro Val Asn His Ser Thr/Arg Lys Glu Glu Lys Gln
                                 265
                                                      270.
            260
Arg Asn Gly Thr Leu Thr Val Thr Ser Th/r Leu Pro Val Gly Thr Arg
                             280
Asp Trp Ile Glu Gly Glu Thr Tyr Gln $\oldsymbol{\psi}$ys Arg Val Thr His Pro His
                         295
                                             300
Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg
                    310
                                         315
Ala Ala Pro Glu Val Tyr Ala Phe A1/a Thr Pro Glu Trp Pro Gly Ser
                                    330
Arg Asp Lys Arg Thr Leu Ala Cys \not\!\! Leu Ile Gln Asn Phe Met Pro Glu
                                 345
            340
Asp Ile Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala
Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe
                         375
                                             380
Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp
                                         395
                    390
Glu Phe Ile Cys Arg Ala Val/His Glu Ala Ala Ser Pro Ser Gln Thr
Val Gln Arg Ala Val Ser VaД Asn Pro Gly Lys
            420
<210> 6
<211> 320
<212> PRT
<213> Homo sapiens
Phe Thr Pro Pro Thr /Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly
                                     10
Gly His Phe Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr
Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met
                                                  45 .
                             40
```

Asp Val Asp Leu Ser Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Alá Ser Thr Gln Ser Glu Leu Thr Leu Ser Gln Lys His Trp Leu Ser/Asp 75 70 Arg Thr Tyr Thr Cys Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp 90 Ser Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr 105 Leu Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr 120 Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser Lys Glý Thr Val Asn 135 140 Leu Thr Trp Ser Arg Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg 150 Lys Glu Glu Lys Gln Arg Asn Gly Thr Leu Thr Val/ Thr Ser Thr Leu 170 165 Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg 190 185 180 Val Thr His Pro His Leu Pro Arg Ala Leu Met/Arg Ser Thr Thr Lys 200 Thr Ser Gly Pro Arg Ala Ala Pro Glu Val Ty⁄r Ala Phe Ala Thr Pro 215 220 Glu Trp Pro Gly Ser Arg Asp Lys Arg Thr \( \mu \)eu Ala Cys Leu Ile Gln 235 230 Asn Phe Met Pro Glu Asp Ile Ser Val Gln/Trp Leu His Asn Glu Val 25Ø 245 Gln Leu Pro Asp Ala Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys 265 260 Gly Ser Gly Phe Phe Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu 280 Trp Glu Gln Lys Asp Glu Phe Ile Cys/ Arg Ala Val His Glu Ala Ala 300 295 Ser Pro Ser Gln Thr Val Gln Arg Afa Val Ser Val Asn Pro Gly Lys 310 315

<210> 7 <211> 569 <212> PRT <213> Unknown

<220>

<223> Fusion between hinge/CH2-CH3 (IgG1) to CH2-CH3-CH4 (IgE)

90 Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys/ Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gin Pro 120 Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr 135 140 Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser 150 155 Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glú Asn Asn Tyr 170 165 Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser /Phe Phe Leu Tyr 185 Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gļń Gly Asn Val Phe 200 Ser Cys Ser Val Met His Glu Ala Leu His Asn Æis Tyr Gln Gln Arg 215 Ser Leu Ser Leu Ser Pro Gly Lys¶Val Glu Glý Gly Gly Gly Ser Gly 230 Gly Gly Gly Ser Gly Gly Gly Ser Thr Pro Pro Thr Val Lys 250/ 245 Ile Leu Gln Ser Ser Cys Asp Gly Gly His Phe Pro Pro Thr Ile 265 260 Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile Asn Ile 285 280 Thr Trp Leu Glu Asp Gly Gln Val Met' Asp Val Asp Leu Ser Thr Ala 295 300 Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu Leu Thr 310 315 Leu Ser Gln Lys His Trp Leu Ser/Asp Arg Thr Tyr Thr Cys Gln Val 330 325 Thr Tyr Gln Gly His Thr Phe Gl¼ Asp Ser Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe 360 Asp Leu Phe Ile Arg Lys Ser/Pro Thr Ile Thr Cys Leu Val Val Asp 380 Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser 395 390 Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln Arg Asn 410 Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg Asp Trp 425 Ile Glu Gly Glu Thr Týr Gln Cys Arg Val Thr His Pro His Leu Pro 440 Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg Ala Ala 455 460 Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser Arg Asp 470 475 Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu Asp Ile 4/85 490 505 Ser Thr Thr Gln/ Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe Val Phe 520 525 Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp Glu Phe 540 535

```
Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser Gln Thr Val/Gln
                    550
Arg Ala Val Ser Val Asn Pro Gly Lys
                565
<210> 8
<211> 159
<212> PRT
<213> Alnus glutinosa (Alder)
<220>
<400> 8
Gly Val Phe Asn Tyr Glu Ala Glu Thr Pro Ser Nal Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Lys Leu Leu Pro Lys
                                 25
Val Ala Pro Glu Ala Val Ser Ser Val Glu ∯sn Ile Glu Gly Asn Gly
                            40
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe/Pro Glu Gly Ser Pro Phe
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp Arg Val Asn Phe Lys
                                         75
                    70
Tyr Ser Phe Ser Val Ile Glu Gly Gly Ala Val Gly Asp Ala Leu Glu
                                     90
Lys Val Cys Asn Glu Ile Lys Ile Va/1 Ala Ala Pro Asp Gly Gly Ser
Ile Leu Lys Ile Ser Asn Lys Phe Mis Thr Lys Gly Asp His Glu Ile
                            120
Asn Ala Glu Gln Ile Lys Ile Glự Lys Glu Lys Ala Val Gly Leu Leu
                        135
Lys Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
                    150
<210> 9
<211> 113
<212> PRT
<213> Alternaria alterna/ta
<400> 9
Met Lys His Leu Ala A\( \frac{1}{2}\)a Tyr Leu Leu Gly Leu Gly Gly Asn Thr
Ser Pro Ser Ala Ala Asp Val Lys Ala Val Leu Glu Ser Val Gly Ile
Glu Ala Asp Ser Asp Arg Leu Asp Lys Leu Ile Ser Glu Leu Glu Gly
Lys Asp Ile Asn G∤u Leu Ile Ala Ser Gly Ser Glu Lys Leu Ala Ser
Val Pro Ser Gly 📢 y Ala Gly Gly Ala Ala Ala Ser Gly Gly Ala Ala
                                         75
                    70
Ala Ala Gly Gly Ser Ala Gln Ala Glu Ala Ala Pro Glu Ala Ala Lys
                                     90
Glu Glu Glu Lys Glu Glu Ser Asp Glu Asp Met Gly Phe Gly Leu Phe
                                 105
Asp
```

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<210> 10
<211> 204
<212> PRT
<213> Alternaria alternata
<400> 10
Met Ala Pro Lys Ile Ala Ile Val Tyr Tyr Ser Met Tyr Gly His Ile
                                    10
Lys Lys Met Ala Asp Ala Glu Leu Lys Gly Ile Gln Glu Ala Gly Gly
Asp Ala Lys Leu Phe Gln Val Ala Glu Thr Leu Pro Gln Glu Val Leu
Asp Lys Met Tyr Ala Pro Pro Lys Asp Ser Ser Val Pro Val Leu Glu
                        55
Asp Pro Ala Val Leu Glu Glu Phe Asp Gly Ile Leu Phe Gly Ile Pro
Thr Arg Tyr Gly Asn Phe Pro Ala Gln Phe Lys Thr Phe Trp Asp Lys
Thr Gly Lys Gln Trp Gln Gln Gly Ala Phe Trp Gly Lys Tyr Ala Gly
            100
                                105
Val Phe Val Ser Thr Gly Thr Leu Gly Gly Gly Gln Glu Thr Thr Ala
                            120
                                                 125
Ile Thr Ser Met Ser Thr Leu Val Asp, His Gly Phe Ile Tyr Val Pro
                        135
Leu Gly Tyr Lys Thr Ala Phe Ser Met Leu Ala Asn Leu Asp Glu Val
                    150
                                        155
His Gly Gly Ser Pro Trp Gly Ala Gly Thr Phe Ser Ala Gly Asp Gly
                                                         175
                165
                                    170
Ser Arg Gln Pro Ser Glu Leu Glu/Leu Asn Ile Ala Gln Ala Gln Gly
           180
                               185
Lys Ala Phe Tyr Glu Ala Val Aļa Lys Ala His Gln
                            2.00
<210> 11
<211> 495
<212> PRT
<213> Alternaria alternata
<400> 11
Met Thr Ser Val Lys Leu/Ser Thr Pro Gln Thr Gly Glu Phe Glu Gln
                                    10
Pro Thr Gly Leu Phe Ile Asn Asn Glu Phe Val Lys Ala Val Asp Gly
                                25
Lys Thr Phe Asp Val Ile Asn Pro Ser Thr Glu Glu Val Ile Cys Ser
                            40
Val Gln Glu Ala Thr/Glu Lys Asp Val Asp Ile Ala Val Ala Ala Ala
Arg Lys Ala Phe Ash Gly Pro Trp Ala Lys Glu Thr Pro Glu Asn Arg
                                        75
Gly Lys Leu Asn Lys Leu Ala Asp Leu Phe Glu Lys Asn Ala Asp
                                    90
Leu Ile Ala Ala/Val Glu Ala Leu Asp Asn Gly Lys Ala Phe Ser Met
            100
                                105
```

```
Ala Lys Asn Val Asp Val Pro Ala Ala Ala Gly Cys Leu Arg Tyr Tyr
Gly Gly Trp Ala Asp Lys Ile Glu Gly Lys Val Val Asp Thr Ala Pro
                        135
                                             140
Asp Ser Phe Asn Tyr Ile Arg Lys Ser Leu Leu Val Phe Ala Yal Arg
                                        155
                    150
Ser Ser Met Glu Leu Pro Ile Leu Met Trp Ser Trp Lys Il∉ Gly Pro
                                    170
                165
Ala Ile Ala Thr Gly Asn Thr Val Val Leu Lys Thr Ala 🕬 lu Gln Thr
                                185
            180
Pro Leu Ser Ala Tyr Ile Ala Cys Lys Leu Ile Gln Gly Ala Gly Phe
                            200
Pro Pro Gly Val Ile Asn Val Ile Thr Gly Phe Gly 1/ys Ile Ala Gly
                                             220
                        215
Ala Ala Met Ser Ala His Met Asp Ile Asp Lys Ile Ala Phe Thr Gly
                                        235
                    230
Ser Thr Val Val Gly Arg Gln Ile Met Lys Ser A/a Ala Gly Ser Asn
                                    250
                245
Leu Lys Lys Val Thr Leu Glu Leu Gly Gly Lys/Ser Pro Asn Ile Val
                                265
            260
Phe Ala Asp Ala Asp Leu Asp Glu Ala Ile His Trp Val Asn Phe Gly
                                                285
                            280
Ile Tyr Phe Asn His Gly Gln Ala Cys Cys ∦la Gly Ser Arg Ile Tyr
                        295
                                            300
Val Gln Glu Glu Ile Tyr Asp Lys Phe Ile Gln Arg Phe Lys Glu Arg
                    310
                                        315
Ala Ala Gln Asn Ala Val Gly Asp Pro Phe Ala Ala Thr Leu Gln Gly
Pro Gln Val Ser Gln Leu Gln Phe Asp Arg Ile Met Gly Tyr Ile Glu
                                345
Glu Gly Lys Lys Ser Gly Ala Thr Il Glu Thr Gly Gly Asn Arg Lys
                            360
Gly Asp Lys Gly Tyr Phe Ile Glu Pfo Thr Ile Phe Ser Asn Val Thr
                        375
Glu Asp Met Lys Ile Gln Gln Glu Elu Ile Phe Gly Pro Val Cys Thr
                    390
                                        395
Ile Ser Lys Phe Lys Thr Lys Al Asp Val Ile Lys Ile Gly Asn Asn
                                    410
                405
Thr Thr Tyr Gly Leu Ser Ala A/a Val His Thr Ser Asn Leu Thr Thr
            420
                                425
Ala Ile Glu Val Ala Asn Ala Leu Arg Ala Gly Thr Val Trp Val Asn
                            440
Ser Tyr Asn Thr Leu His Trp Gln Leu Pro Phe Gly Gly Tyr Lys Glu
Ser Gly Ile Gly Arg Glu Leu Gly Glu Ala Ala Leu Asp Asn Tyr Ile
                    470
                                        475
Gln Thr Lys Thr Val Ser /Ile Arg Leu Gly Asp Val Leu Phe Gly
                                     490
                485
```

<sup>&</sup>lt;210> 12

<sup>&</sup>lt;211> 110

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Alternaria alternata

<sup>&</sup>lt;400> 12

Met Ser Thr Ser Gl / Leu Ala Thr Ser Tyr Ala Ala Leu Ile Leu Ala

```
10
Asp Asp Gly Val Asp Ile Thr Ala Asp Lys Leu Gln Ser Leu Ile Lys
Ala Ala Lys Ile Glu Glu Val Glu Pro Ile Trp Thr Thr Leu Ph∉ Ala
Lys Ala Leu Glu Gly Lys Asp Val Lys Asp Leu Leu Leu Asn Val Gly
Ser Gly Gly Gly Ala Ala Pro Leu Pro Glu Ala Leu Leu Ley Arg Trp
Arq Ala Ala Asp Ala Ala Pro Ala Ala Glu Glu Lys Lys Çlu Glu Glu
                                     90
                8.5
Lys Glu Glu Ser Asp Glu Asp Met Gly Phe Gly Leu Phe Asp
<210> 13
<211> 396
<212> PRT
<213> Ambrosia artemisiifolia (Short ragweed)
<400> 13
Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu
Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glu Asp Leu Gln Glu Ile
                                 25
Leu Pro Val Asn Glu Thr Arg Arg Leu Thr/Thr Ser Gly Ala Tyr Asn
Ile Ile Asp Gly Cys Trp Arg Gly Lys Ala Asp Trp Ala Glu Asn Arg
Lys Ala Leu Ala Asp Cys Ala Gln Gly Phe Gly Lys Gly Thr Val Gly
                    70
Gly Lys Asp Gly Asp Ile Tyr Thr Val/Thr Ser Glu Leu Asp Asp Asp
Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Gly Ala Ala Gln Asn
                                 1/05
Arg Pro Leu Trp Ile Ile Phe Glu Arg Asp Met Val Ile Arg Leu Asp
                            120
        115
Lys Glu Met Val Val Asn Ser Asp Lys Thr Ile Asp Gly Arg Gly Ala
                        135
                                             140
Lys Val Glu Ile Ile Asn Ala Gly Phe Thr Leu Asn Gly Val Lys Asn
                    150
                                         155
Val Ile Ile His Asn Ile Asn Met His Asp Val Lys Val Asn Pro Gly
                                     170
Gly Leu Ile Lys Ser Asn Asp Gly Pro Ala Ala Pro Arg Ala Gly Ser
                                185
            180
Asp Gly Asp Ala Ile Ser I/ie Ser Gly Ser Ser Gln Ile Trp Ile Asp
                            200
His Cys Ser Leu Ser Lys Ser Val Asp Gly Leu Val Asp Ala Lys Leu
                        215
                                             220
Gly Thr Thr Arg Leu Thr Val Ser Asn Ser Leu Phe Thr Gln His Gln
                                         235
Phe Val Leu Leu Phe G\rlap/\!\!Iy Ala Gly Asp Glu Asn Ile Glu Asp Arg Gly
                                     250
Met Leu Ala Thr Val Ala Phe Asn Thr Phe Thr Asp Asn Val Asp Gln
                                 265
Arg Met Pro Arg Cys' Arg His Gly Phe Phe Gln Val Val Asn Asn Asn
        275
                             280
```

```
Tyr Asp Lys Trp Gly Ser Tyr Ala Ile Gly Gly Ser Ala Ser Pro Thr
    290
Ile Leu Ser Gln Gly Asn Arg Phe Cys Ala Pro Asp Glu Arg Ser Lys
                                        315
                    310
Lys Asn Val Leu Gly Arg His Gly Glu Ala Ala Ala Glu Ser Met Lys
                                    330
Trp Asn Trp Arg Thr Asn Lys Asp Val Leu Glu Asn Gly Ala Ile/Phe
                                345
Val Ala Ser Gly Val Asp Pro Val Leu Thr Pro Glu Gln Ser Afa Gly
                            360
Met Ile Pro Ala Glu Pro Gly Glu Ser Ala Leu Ser Leu Thr Ser Ser
                        375
Ala Gly Val Leu Ser Cys Gln Pro Gly Ala Pro Cys
                    390
<210> 14
<211> 398
<212> PRT
<213> Ambrosia artemisiifolia (Short ragweed)
<400> 14
Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu
                                    10
Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glp Asp Val Glu Glu Phe
Leu Pro Ser Ala Asn Glu Thr Arg Arg Ser Leu Lys Ala Cys Glu Ala
His Asn Ile Ile Asp Lys Cys Trp Arg Cys/Lys Ala Asp Trp Ala Asn
                        55
Asn Arg Gln Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr
Tyr Gly Gly Lys His Gly Asp Val Tyr Thr Val Thr Ser Asp Lys Asp
Asp Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Ala Ala Ala
                                105
            100
Gln Asn Arg Pro Leu Trp Ile Ile Phe/Lys Arg Asn Met Val Ile His
                                                125
                            120
Leu Asn Gln Glu Leu Val Val Asn Se/r Asp Lys Thr Ile Asp Gly Arg
                        135
Gly Val Lys Val Asn Ile Val Asn Ala Gly Leu Thr Leu Met Asn Val
                    150
Lys Asn Ile Ile Ile His Asn Ile /Asn Ile His Asp Ile Lys Val Cys
                                    170
                165
Pro Gly Gly Met Ile Lys Ser Asn Asp Gly Pro Pro Ile Leu Arg Gln
                               185
Gln Ser Asp Gly Asp Ala Ile A∮n Val Ala Gly Ser Ser Gln Ile Trp
                            2/00
                                                205
Ile Asp His Cys Ser Leu Ser ♯ys Ala Ser Asp Gly Leu Leu Asp Ile
                        215
                                            220
Thr Leu Gly Ser Ser His Val/Thr Val Ser Asn Cys Lys Phe Thr Gln
                                        235
                    230
His Gln Phe Val Leu Le\mu Gly Ala Asp Asp Thr His Tyr Gln Asp
                                    250
                245
Lys Gly Met Leu Ala Thr Val Ala Phe Asn Met Phe Thr Asp His Val
```

Asp Gln Arg Met Pro Arg/Cys Arg Phe Gly Phe Phe Gln Val Val Asn

```
280
Asn Asn Tyr Asp Arg Trp Gly Thr Tyr Ala Ile Gly Gly Ser Ser A/a
                        295
Pro Thr Ile Leu Ser Gln Gly Asn Arg Phe Phe Ala Pro Asp Asp/Ile
                    310
                                        315
Ile Lys Lys Asn Val Leu Ala Arg Thr Gly Thr Gly Asn Ala Glu Ser
                                    330
                325
Met Ser Trp Asn Trp Arg Thr Asp Arg Asp Leu Leu Glu Asn 🖒 ly Ala
                                345
            340
Ile Phe Leu Pro Ser Gly Ser Asp Pro Val Leu Thr Pro Gl/ Gln Lys
                                                365
                            360
Ala Gly Met Ile Pro Ala Glu Pro Gly Glu Ala Val Leu Arg Leu Thr
                        375
Ser Ser Ala Gly Val Leu Ser Cys His Gln Gly Ala Pro Cys
<210> 15
<211> 397
<212> PRT
<213> Ambrosia artemisiifolia (Short ragweed)
<400> 15
Met Gly Ile Lys Gln Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu
                                    10
Val Ala Leu Leu Gln Pro Val Arg Ser Ala Çlu Gly Val Gly Glu Ile
Leu Pro Ser Val Asn Glu Thr Arg Ser Leu/Gln Ala Cys Glu Ala Leu
Asn Ile Ile Asp Lys Cys Trp Arg Gly Lys Ala Asp Trp Glu Asn Asn
                        55
Arg Gln Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr Tyr
                                        75
Gly Gly Lys Trp Gly Asp Val Tyr Thr/Val Thr Ser Asn Leu Asp Asp
                                    90
Asp Val Ala Asn Pro Lys Glu Gly Th/r Leu Arg Phe Ala Ala Gln
                                105
            100
Asn Arg Pro Leu Trp Ile Ile Phe Lys Asn Asp Met Val Ile Asn Leu
                            120
                                                 125
Asn Gln Glu Leu Val Val Asn Ser/Asp Lys Thr Ile Asp Gly Arg Gly
                        135
Val Lys Val Glu Ile Ile Asn Gl/y Gly Leu Thr Leu Met Asn Val Lys
                    150
Asn Ile Ile Ile His Asn Ile Asn Ile His Asp Val Lys Val Leu Pro
                165
                                    170
Gly Gly Met Ile Lys Ser Asn /Asp Gly Pro Pro Ile Leu Arg Gln Ala
                                185
            180
Ser Asp Gly Asp Thr Ile Asm Val Ala Gly Ser Ser Gln Ile Trp Ile
                           200
Asp His Cys Ser Leu Ser Lys Ser Phe Asp Gly Leu Val Asp Val Thr
                                             220
                        2/15
Leu Gly Ser Thr His Val Thr Ile Ser Asn Cys Lys Phe Thr Gln Gln
                    230
                                        235
Ser Lys Ala Ile Leu Leu/Gly Ala Asp Asp Thr His Val Gln Asp Lys
                                    250
Gly Met Leu Ala Thr Va/1 Ala Phe Asn Met Phe Thr Asp Asn Val Asp
            260
                                265
```

```
Gln Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Val Val Asn Asn,
Asn Tyr Asp Arg Trp Gly Thr Tyr Ala Ile Gly Gly Ser Ser Ala Pfo
                        295
                                             300
Thr Ile Leu Cys Gln Gly Asn Arg Phe Leu Ala Pro Asp Asp Gln/Ile
                                        315
Lys Lys Asn Val Leu Ala Arg Thr Gly Thr Gly Ala Ala Glu Ser Met
                                    330
                325
Ala Trp Asn Trp Arg Ser Asp Lys Asp Leu Leu Glu Asn Gly/Ala Ile
                                345
            340
Phe Val Thr Ser Gly Ser Asp Pro Val Leu Thr Pro Val Gin Ser Ala
                                                 365
                            360
Gly Met Ile Pro Ala Glu Pro Gly Glu Ala Ala Ile Lys/Leu Thr Ser
                        375
Ser Ala Gly Val Phe Ser Cys His Pro Gly Ala Pro Cys
                    390
<210> 16
<211> 392
<212> PRT
<213> Ambrosia artemisiifolia (Short ragwe∉d)
<400> 16
Met Gly Ile Lys His Cys Cys Tyr Ile Leu fryr Phe Thr Leu Ala Leu
Val Thr Leu Leu Gln Pro Val Arg Ser Al∉ Glu Asp Leu Gln Gln Ile
Leu Pro Ser Ala Asn Glu Thr Arg Ser Leu Thr Thr Cys Gly Thr Tyr
Asn Ile Ile Asp Gly Cys Trp Arg Gly Lys Ala Asp Trp Ala Glu Asn
Arg Lys Ala Leu Ala Asp Cys Ala Gly Gly Phe Ala Lys Gly Thr Ile
                                        75
Gly Gly Lys Asp Gly Asp Ile Tyr Thr Val Thr Ser Glu Leu Asp Asp
                                    90
Asp Val Ala Asn Pro Lys Glu Gly/Thr Leu Arg Phe Gly Ala Ala Gln
                                105
            100
Asn Arg Pro Leu Trp Ile Ile Ph¢ Ala Arg Asp Met Val Ile Arg Leu
                                                 125
Asp Arg Glu Leu Ala Ile Asn Asn Asp Lys Thr Ile Asp Gly Arg Gly
                        135
                                             140
Ala Lys Val Glu Ile Ile Asn Ala Gly Phe Ala Ile Tyr Asn Val Lys
                    150
                                         155
Asn Ile Ile Ile His Asn Ile Ile Met His Asp Ile Val Val Asn Pro
                165
                                    170
Gly Gly Leu Ile Lys Ser H#s Asp Gly Pro Pro Val Pro Arg Lys Gly
```

250

235

205

220

185

Ser Asp Gly Asp Ala Ile \$ly Ile Ser Gly Gly Ser Gln Ile Trp Ile 200

Asp His Cys Ser Leu Ser/Lys Ala Val Asp Gly Leu Ile Asp Ala Lys

His Gly Ser Thr His Phe Thr Val Ser Asn Cys Leu Phe Thr Gln His

Gln Tyr Leu Leu Phe Trp Asp Phe Asp Glu Arg Gly Met Leu Cys

215

180

```
265
            260
Asn Leu Arg His Gly Phe Val Gln Val Val Asn Asn Asn Tyr Glu/Arg
Trp Gly Ser Tyr Ala Leu Gly Gly Ser Ala Gly Pro Thr Ile Leu Ser
                        295
Gln Gly Asn Arg Phe Leu Ala Ser Asp Ile Lys Lys Glu Val/Val Gly
                    310
                                        315
Arg Tyr Gly Glu Ser Ala Met Ser Glu Ser Ile Asn Trp Asn Trp Arg
                                    330
Ser Tyr Met Asp Val Phe Glu Asn Gly Ala Ile Phe Val/ Pro Ser Gly
                                345
                                                     350
            340
Val Asp Pro Val Leu Thr Pro Glu Gln Asn Ala Gly Met Ile Pro Ala
                            360
Glu Pro Gly Glu Ala Val Leu Arg Leu Thr Ser Ser/Ala Gly Val Leu
                        375
Ser Cys Gln Pro Gly Ala Pro Cys
                    390
<210> 17
<211> 397
<212> PRT
<213> Ambrosia artemisiifolia (Short ragweed)
<400> 17
Met Gly Ile Lys His Cys Cys Tyr Ile Let Tyr Phe Thr Leu Ala Leu
Val Thr Leu Val Gln Ala Gly Arg Leu 📢 glu Glu Val Asp Ile Leu
Pro Ser Pro Asn Asp Thr Arg Arg Ser/Leu Gln Gly Cys Glu Ala His
Asn Ile Ile Asp Lys Cys Trp Arg Cy/s Lys Pro Asp Trp Ala Glu Asn
Arg Gln Ala Leu Gly Asn Cys Ala 📢 n Gly Phe Gly Lys Ala Thr His
                                        75
Gly Gly Lys Trp Gly Asp Ile Tyr/Met Val Thr Ser Asp Gln Asp Asp
                85
Asp Val Val Asn Pro Lys Glu Gl Thr Leu Arg Phe Gly Ala Thr Gln
                                105
Asp Arg Pro Leu Trp Ile Ile Phe Gln Arg Asp Met Ile Ile Tyr Leu
Gln Gln Glu Met Val Val Thr Ser Asp Lys Thr Ile Asp Gly Arg Gly
Ala Lys Val Glu Leu Val Ty# Gly Gly Ile Thr Leu Met Asn Val Lys
                                         155
                    150
Asn Val Ile Ile His Asn I
ot\!{I}e Asp Ile His Asp Val Arg Val Leu Pro
                                    170
                165
Gly Gly Arg Ile Lys Ser Asn Gly Gly Pro Ala Ile Pro Arg His Gln
                                185
Ser Asp Gly Asp Ala Ile His Val Thr Gly Ser Ser Asp Ile Trp Ile
                            200
Asp His Cys Thr Leu S∉r Lys Ser Phe Asp Gly Leu Val Asp Val Asn
                                             220
                        215
Trp Gly Ser Thr Gly #al Thr Ile Ser Asn Cys Lys Phe Thr His His
                                        235
Glu Lys Ala Val Let Leu Gly Ala Ser Asp Thr His Phe Gln Asp Leu
                                     250
```

```
Lys Met His Val Thr Leu Ala Tyr Asn Ile Phe Thr Asn Thr Val His
Glu Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Ile Val Asn Agn.
                                                285
                            280
Phe Tyr Asp Arg Trp Asp Lys Tyr Ala Ile Gly Gly Ser Ser Asn Pro
                        295
Thr Ile Leu Ser Gln Gly Asn Lys Phe Val Ala Pro Asp Phe /le Tyr
                                        315
Lys Lys Asn Val Cys Leu Arg Thr Gly Ala Gln Glu Pro Gl
                                    330
                325
Thr Trp Asn Trp Arg Thr Gln Asn Asp Val Leu Glu Asn Gly Ala Ile
                                345
Phe Val Ala Ser Gly Ser Asp Pro Val Leu Thr Ala Glu Gln Asn Ala
                            360
Gly Met Met Gln Ala Glu Pro Gly Asp Met Val Pro Gln Leu Thr Met
                        375
Asn Ala Gly Val Leu Thr Cys Ser Pro Gly Ala Pro Cys
                    390
<210> 18
<211> 101
<212> PRT
<213> Ambrosia artemisiifolia var.elati\phir(Short ragweed)
<400> 18
Gly Lys Val Tyr Leu Val Gly Gly Pro G/u Leu Gly Gly Trp Lys Leu
Gln Ser Asp Pro Arg Ala Tyr Ala Leu Trp Ser Ala Arg Gln Gln Phe
                                25
Lys Thr Thr Asp Val Leu Trp Phe Asm Phe Thr Thr Gly Glu Asp Ser
Val Ala Glu Val Trp Arg Glu Glu Afa Tyr His Ala Cys Asp Ile Lys
Asp Pro Ile Arg Leu Glu Pro Gly Cly Pro Asp Arg Phe Thr Leu Leu
                    70
Thr Pro Gly Ser His Phe Ile Cys Thr Lys Asp Gln Lys Phe Val Ala
Cys Val Pro Gly Arg
            100
<210> 19
<211> 45
<212> PRT
<213> Ambrosia artemisiifolia var.elatior(Short ragweed)
<400> 19
Leu Val Pro Cys Ala Trp/ Ala Gly Asn Val Cys Gly Glu Lys Arg Ala
Tyr Cys Cys Ser Asp Pro Gly Arg Tyr Cys Pro Trp Gln Val Val Cys
                                25
Tyr Glu Ser Ser Glu I/le Cys Ser Lys Lys Cys Gly Lys
<210> 20
```

```
<211> 77
<212> PRT
<213> Ambrosia psilostachya (Western ragweed)
Met Asn Asn Glu Lys Asn Val Ser Phe Glu Phe Ile Gly Ser Thr/Asp
Glu Val Asp Glu Ile Lys Leu Leu Pro Cys Ala Trp Ala Gly Asn Val
Cys Gly Glu Lys Arg Ala Tyr Cys Cys Ser Asp Pro Gly Arg/Tyr Cys
                                                 45
                             40
Pro Trp Gln Val Val Cys Tyr Glu Ser Ser Glu Ile Cys Ser Gln Lys
Cys Gly Lys Met Arg Met Asn Val Thr Lys Asn Thr Ile,
<210> 21
<211> 77
<212> PRT
<213> Ambrosia psilostachya (Western ragweed)
<400> 21
Met Asn Asn Glu Lys Asn Val Ser Phe Glu Phe/Ile Gly Ser Thr Asn
Glu Val Asp Glu Ile Lys Val Met Ala Cys Tyfr Ala Ala Gly Ser Ile
Cys Gly Glu Lys Arg Gly Tyr Cys Ser Ser Asp Pro Gly Arg Tyr Cys
                             40
Pro Trp Gln Val Val Cys Tyr Glu Ser Arg/Lys Ile Cys Ala Lys Asn
                        55
Ala Ala Lys Met Arg Met Asn Val Thr Ly# Asn Thr Ile
                    70
<210> 22
<211> 73
<212> PRT
<213> Ambrosia trifida (Giant ragweed)
<400> 22
Met Lys Asn Ile Phe Met Leu Thr #eu Phe Ile Leu Ile Ile Thr Ser
Thr Ile Lys Ala Ile Gly Ser Thr/Asn Glu Val Asp Glu Ile Lys Gln
Glu Asp Asp Gly Leu Cys Tyr Gl\rlap/p Gly Thr Asn Cys Gly Lys Val Gly
Lys Tyr Cys Cys Ser Pro Ile G#y Lys Tyr Cys Val Cys Tyr Asp Ser
                         55
Lys Ala Ile Cys Asn Lys Asn {\not E}ys Thr
                    70
<210> 23
<211> 154
<212> PRT
<213> um graveolens (Celery)
```

```
<400> 23
Met Gly Val Gln Thr His Val Leu Glu Leu Thr Ser Ser Val Ser Ala
Glu Lys Ile Phe Gln Gly Phe Val Ile Asp Val Asp Thr Val/Leu Pro
Lys Ala Ala Pro Gly Ala Tyr Lys Ser Val Glu Ile Lys G1y Asp Gly
Gly Pro Gly Thr Leu Lys Ile Ile Thr Leu Pro Asp Gly Gly Pro Ile
                        55
Thr Thr Met Thr Leu Arg Ile Asp Gly Val Asn Lys €lu Ala Leu Thr
                                         75
Phe Asp Tyr Ser Val Ile Asp Gly Asp Ile Leu Ley Gly Phe Ile Glu
Ser Ile Glu Asn His Val Val Leu Val Pro Thr Ala Asp Gly Gly Ser
                                 105
            100
Ile Cys Lys Thr Thr Ala Ile Phe His Thr Ly$\forall Gly Asp Ala Val Val
                                                 125
                            120
Pro Glu Glu Asn Ile Lys Tyr Ala Asn Glu Gin Asn Thr Ala Leu Phe
                                             140
                        135
Lys Ala Leu Glu Ala Tyr Leu Ile Ala Asn
                    150
<210> 24
<211> 162
<212> PRT
<213> Apis mellifera (Honeybee)
<400> 24
Gly Ser Leu Phe Leu Leu Leu Ser Thr Ser His Gly Trp Gln Ile
Arg Asp Arg Ile Gly Asp Asn Glu /Leu Glu Glu Arg Ile Ile Tyr Pro
Gly Thr Leu Trp Cys Gly His Gl^{\prime}_{y} Asn Lys Ser Ser Gly Pro Asn Glu
Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg Thr His Asp Met
                        55
Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His Gly Leu Thr Asn
Thr Ala Ser His Thr Arg Ley Ser Cys Asp Cys Asp Lys Phe Tyr
Asp Cys Leu Lys Asn Ser Ala Asp Thr Ile Ser Ser Tyr Phe Val Gly
                                 105
            100
Lys Met Tyr Phe Asn Leu ∳le Asp Thr Lys Cys Tyr Lys Leu Glu His
                            120
Pro Val Thr Gly Cys Gly/Glu Arg Thr Glu Gly Arg Cys Leu His Tyr
                                             140
                        135
Thr Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp Phe Asp Leu Arg
145
Lys Tyr
<210> 25
<211> 382
<212> PRT
```

## <213> Apis mellifera (Honeybee)

```
<400> 25
Met Ser Arg Pro Leu Val Ile Thr Glu Gly Met Met Ile Gly Val Leu
Leu Met Leu Ala Pro Ile Asn Ala Leu Leu Leu Gly Phe/Val Gln Ser
                                 25
Thr Pro Asp Asn Asn Lys Thr Val Arg Glu Phe Asn Val Tyr Trp Asn
Val Pro Thr Phe Met Cys His Lys Tyr Gly Leu Ar∉ Phe Glu Glu Val
                        55
Ser Glu Lys Tyr Gly Ile Leu Gln Asn Trp Met Asp Lys Phe Arg Gly
Glu Glu Ile Ala Ile Leu Tyr Asp Pro Gly Met Phe Pro Ala Leu Leu
Lys Asp Pro Asn Gly Asn Val Val Ala Arg Asn Gly Gly Val Pro Gln
                                 105
            100
Leu Gly Asn Leu Thr Lys His Leu Gln Val/ Phe Arg Asp His Leu Ile
                            120
Asn Gln Ile Pro Asp Lys Ser Phe Pro G/2 Val Gly Val Ile Asp Phe
                                             140
                        135
Glu Ser Trp Arg Pro Ile Phe Arg Gln/Asn Trp Ala Ser Leu Gln Pro
                    150
                                         155
Tyr Lys Lys Leu Ser Val Glu Val Va/1 Arg Arg Glu His Pro Phe Trp
                                    170
Asp Asp Gln Arg Val Glu Gln Glu #la Lys Arg Arg Phe Glu Lys Tyr
                                 185
            180
Gly Gln Leu Phe Met Glu Glu Thr/Leu Lys Ala Ala Lys Arg Met Arg
Pro Ala Ala Asn Trp Gly Tyr Tyr Ala Tyr Pro Tyr Cys Tyr Asn Leu
                        215
                                             220
Thr Pro Asn Gln Pro Ser Ala 4 ln Cys Glu Ala Thr Thr Met Gln Glu
                                         235
                    230
Asn Asp Lys Met Ser Trp Leu/Phe Glu Ser Glu Asp Val Leu Leu Pro
                245
                                     250
Ser Val Tyr Leu Arg Trp Ash Leu Thr Ser Gly Glu Arg Val Gly Leu
                                265
            260
Val Gly Gly Arg Val Lys Ghu Ala Leu Arg Ile Ala Arg Gln Met Thr
                            280
                                                 285
Thr Ser Arg Lys Lys Val Leu Pro Tyr Tyr Trp Tyr Lys Tyr Gln Asp
                        295
                                             300
Arg Arg Asp Thr Asp Ley Ser Arg Ala Asp Leu Glu Ala Thr Leu Arg
Lys Ile Thr Asp Leu G\rlap/{\!\!/}y Ala Asp Gly Phe Ile Ile Trp Gly Ser Ser
                                     330
                325
Asp Asp Ile Asn Thr $\mu$ys Ala Lys Cys Leu Gln Phe Arg Glu Tyr Leu
                                 345
Asn Asn Glu Leu Gly/Pro Ala Val Lys Arg Ile Ala Leu Asn Asn
                            360
Ala Asn Asp Arg Lev Thr Val Asp Val Ser Val Asp Gln Val
                        375
```

<sup>&</sup>lt;210> 26

<sup>&</sup>lt;211> 70

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Apis mell fera (Honeybee) Apis cerana (Ind. honeybee)

```
<400> 26
Met Lys Phe Leu Val Asn Val Ala Leu Val Phe Met Val Val Tyfr Ile
Ser Tyr Ile Tyr Ala Ala Pro Glu Pro Glu Pro Ala Pro Glu Pro Glu
Ala Glu Ala Asp Ala Glu Ala Asp Pro Glu Ala Gly Ile G∤y Ala Val
Leu Lys Val Leu Thr Thr Gly Leu Pro Ala Leu Ile Ser/Trp Ile Lys
                       55
Arg Lys Arg Gln Gln Gly
<210> 27
<211> 614
<212> PRT
<213> Arachis hypogaea (Peanut)
<400> 27
Met Arg Gly Arg Val Ser Pro Leu Met Leu Leu Gly Ile Leu Val
Leu Ala Ser Val Ser Ala Thr Gln Ala Lys ≸er Pro Tyr Arg Lys Thr
                               25
Glu Asn Pro Cys Ala Gln Arg Cys Leu Gln/Ser Cys Gln Gln Glu Pro
Asp Asp Leu Lys Gln Lys Ala Cys Glu Ser Arg Cys Thr Lys Leu Glu
Tyr Asp Pro Arg Cys Val Tyr Asp Thr 📢ly Ala Thr Asn Gln Arg His
Pro Pro Gly Glu Arg Thr Arg Gly Arg/Gln Pro Gly Asp Tyr Asp Asp
Asp Arg Arg Gln Pro Arg Arg Glu Gl/ Gly Gly Arg Trp Gly Pro Ala
Glu Pro Arg Glu Arg Glu Arg Glu Glu Asp Trp Arg Gln Pro Arg Glu
                           120
Asp Trp Arg Arg Pro Ser His Gln/Gln Pro Arg Lys Ile Arg Pro Glu
                                           140
                       135
Gly Arg Glu Gly Glu Gln Glu Trp Gly Thr Pro Gly Ser Glu Val Arg
                   150
Ser Thr Arg Tyr Gly Asn Gln Asn Gly Arg Ile Arg Val Leu Gln Arg
                               185
Phe Asp Gln Arg Ser Lys Gln/Phe Gln Asn Leu Gln Asn His Arg Ile
                           200
                                               205
Val Gln Ile Glu Ala Arg Pr\phi Asn Thr Leu Val Leu Pro Lys His Ala
                       21/5
                                           220
Asp Ala Asp Asn Ile Leu Val Ile Gln Gln Gly Gln Ala Thr Val Thr
                                       235
                   230
Val Ala Asn Gly Asn Asn Arg Lys Ser Phe Asn Leu Asp Glu Gly His
                                   250
               245
Ala Leu Arg Ile Pro Ser/Gly Phe Ile Ser Tyr Ile Leu Asn Arg His
           260
Asp Asn Gln Asn Leu Aroldsymbol{q} Val Ala Lys Ile Ser Met Pro Val Asn Thr
Pro Gly Gln Phe Glu Asp Phe Phe Pro Ala Ser Ser Arg Asp Gln Ser
```

```
295
                                           300
Ser Tyr Leu Gln Gly Phe Ser Arg Asn Thr Leu Glu Ala Ala Phe Asn
                   310
                                       315
Ala Glu Phe Asn Glu Ile Arg Arg Val Leu Leu Glu Glu Asn Ala Gly
                                   330
               325
Gly Glu Gln Glu Glu Arg Gly Gln Arg Arg Arg Ser Thr Arg Ser Ser
                               345
Asp Asn Glu Gly Val Ile Val Lys Val Ser Lys Glu His Yal Gln Glu
                           360
                                               365
Leu Thr Lys His Ala Lys Ser Val Ser Lys Lys Gly Sex Glu Glu Glu
                       375
Asp Ile Thr Asn Pro Ile Asn Leu Arg Asp Gly Glu Pro Asp Leu Ser
                   390
                                       395
Asn Asn Phe Gly Arg Leu Phe Glu Val Lys Pro Asp/Lys Lys Asn Pro
               405
                                   410
Gln Leu Gln Asp Leu Asp Met Met Leu Thr Cys V#1 Glu Ile Lys Glu
                               425
Gly Ala Leu Met Leu Pro His Phe Asn Ser Lys Ala Met Val Ile Val
                           440
                                               445
Val Val Asn Lys Gly Thr Gly Asn Leu Glu Ley Val Ala Val Arg Lys
                                          460
                       455
Glu Gln Gln Gln Arg Gly Arg Arg Glu Gln G/1u Trp Glu Glu Glu Glu
                   470
                                        175
Glu Asp Glu Glu Glu Gly Ser Asn Arg/Glu Val Arg Arg Tyr Thr
                                                       495
                                   490
               485
Ala Arg Leu Lys Glu Gly Asp Val Phe Ilf Met Pro Ala Ala His Pro
                               505
Val Ala Ile Asn Ala Ser Ser Glu Leu His Leu Leu Gly Phe Gly Ile
                           520
Asn Ala Glu Asn Asn His Arg Ile Phe/Leu Ala Gly Asp Lys Asp Asn
                       535
Val Ile Asp Gln Ile Glu Lys Gln Al≉ Lys Asp Leu Ala Phe Pro Gly
                                       555
                   550
Ser Gly Glu Gln Val Glu Lys Leu I/Le Lys Asn Gln Arg Glu Ser His
                                   570
               565
Phe Val Ser Ala Arg Pro Gln Ser & In Ser Pro Ser Ser Pro Glu Lys
                               585
                                                   590
Glu Asp Gln Glu Glu Glu Asn Gln/ Gly Gly Lys Gly Pro Leu Leu Ser
       595
                           600
Ile Leu Lys Ala Phe Asn
   610
<210> 28
<211> 626
<212> PRT
<213> Arachis hypogaea (P∉anut)
<400> 28
Met Arg Gly Arg Val Ser Pro Leu Met Leu Leu Leu Gly Ile Leu Val
                                   10
Leu Ala Ser Val Ser Ala/ Thr His Ala Lys Ser Ser Pro Tyr Gln Lys
                               25
Lys Thr Glu Asn Pro Cyk Ala Gln Arg Cys Leu Gln Ser Cys Gln Gln
```

Leu Glu Tyr Asp Pro Arg Cys Val Tyr Asp Pro Arg Gly His Thr Gly Thr Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln Pro Gly Asp Tyr Asp Asp Asp Arg Arg Gln Pro Arg Arg Glu Glu Gly 105 Gly Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg/Glu Glu Asp 120 Trp Arg Gln Pro Arg Glu Asp Trp Arg Arg Pro Ser H#s Gln Gln Pro 135 Arg Lys Ile Arg Pro Glu Gly Arg Glu Gly Glu Gln /Glu Trp Gly Thr 150 155 Pro Gly Ser His Val Arg Glu Glu Thr Ser Arg Asn Pro Phe Tyr 170 165 Phe Pro Ser Arg Arg Phe Ser Thr Arg Tyr Gly Asn Gln Asn Gly Arg 180 185 Ile Arq Val Leu Gln Arg Phe Asp Gln Arg Ser Arg Gln Phe Gln Asn 200 205 Leu Gln Asn His Arg Ile Val Gln Ile Glu Al∉ Lys Pro Asn Thr Leu 220 215 Val Leu Pro Lys His Ala Asp Ala Asp Asn I‡e Leu Val Ile Gln Gln 230 2/35 Gly Gln Ala Thr Val Thr Val Ala Asn Gly Asn Asn Arg Lys Ser Phe 250 245 Asn Leu Asp Glu Gly His Ala Leu Arg Ile/Pro Ser Gly Phe Ile Ser 265 Tyr Ile Leu Asn Arg His Asp Asn Gln As**n** Leu Arg Val Ala Lys Ile 280 Ser Met Pro Val Asn Thr Pro Gly Gln Phe Glu Asp Phe Phe Pro Ala 295 Ser Ser Arg Asp Gln Ser Ser Tyr Leu  $oldsymbol{\phi}$ ln Gly Phe Ser Arg Asn Thr 310 315 Leu Glu Ala Ala Phe Asn Ala Glu Phe/Asn Glu Ile Arg Arg Val Leu 330 325 Leu Glu Glu Asn Ala Gly Gly Glu Glu Glu Glu Arg Gly Gln Arg Arg 34/5 Trp Ser Thr Arg Ser Ser Glu Asn Afn Glu Gly Val Ile Val Lys Val 360 Ser Lys Glu His Val Glu Glu Leu Thr Lys His Ala Lys Ser Val Ser 380 Lys Lys Gly Ser Glu Glu Glu Gly Asp Ile Thr Asn Pro Ile Asn Leu 390 395 Arg Glu Gly Glu Pro Asp Leu S#r Asn Asn Phe Gly Lys Leu Phe Glu 410 405 Val Lys Pro Asp Lys Lys Asn ≱ro Gln Leu Gln Asp Leu Asp Met Met 425 430 Leu Thr Cys Val Glu Ile Lys/Glu Gly Ala Leu Met Leu Pro His Phe 440 Asn Ser Lys Ala Met Val Ile Val Val Val Asn Lys Gly Thr Gly Asn Leu Glu Leu Val Ala Val Arg Lys Glu Gln Gln Arg Gly Arg Arg 470 475 Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Gly Ser Asn Arg Glu 490 Val Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly Asp Val Phe Ile Met 505 Pro Ala Ala His Pro Val Ala Ile Asn Ala Ser Ser Glu Leu His Leu

```
520
        515
Leu Gly Phe Gly Ile Asn Ala Glu Asn Asn His Arg Ile Phe Leu Ma
                                             540
                        535
Gly Asp Lys Asp Asn Val Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp
                    550
                                         555
Leu Ala Phe Pro Gly Ser Gly Glu Gln Val Glu Lys Leu Ile/Lys Asn
                                     570
                565
Gln Lys Glu Ser His Phe Val Ser Ala Arg Pro Gln Ser 💋 n Ser Gln
                                 585
            580
Ser Pro Ser Ser Pro Glu Lys Glu Ser Pro Glu Lys Gl/ Asp Gln Glu
                                                 605
                            600
Glu Glu Asn Gln Gly Gly Lys Gly Pro Leu Leu Ser/Ile Leu Lys Ala
    610
Phe Asn
625
<210> 29
<211> 131
<212> PRT
<213> Arabidopsis thaliana (Mouse-ear c/ress)
<400> 29
Met Ser Trp Gln Ser Tyr Val Asp Asp His Leu Met Cys Asp Val Glu
Gly Asn His Leu Thr Ala Ala Ala Ile Leu Gly Gln Asp Gly Ser Val
Trp Ala Gln Ser Ala Lys Phe Pro GIn Leu Lys Pro Gin Glu Ile Asp
                             40
Gly Ile Lys Lys Asp Phe Glu Glu Pro Gly Phe Leu Ala Pro Thr Gly
                        55
                                           . 60
Leu Phe Leu Gly Gly Glu Lys Ty# Met Val Ile Gln Gly Glu Gln Gly
                                         75.
                    70
Ala Val Ile Arg Gly Lys Lys Gly Pro Gly Gly Val Thr Ile Lys Lys
                                     90
Thr Asn Gln Ala Leu Val Phe Gly Phe Tyr Asp Glu Pro Met Thr Gly
                                 105
                                                     110
            100
Gly Gln Cys Asn Leu Val Val/ Glu Arg Leu Gly Asp Tyr Leu Ile Glu
                            120
        115
Ser Glu Leu
    130
<210> 30
<211> 176
<212> PRT
<213> Aspergillus restrictus Aspergillus fumigatus
<400> 30
Met Val Ala Ile Lys Asn Leu Phe Leu Leu Ala Ala Thr Ala Val Ser
                                     10
Val Leu Ala Ala Proldsymbol{q} Ser Pro Leu Asp Ala Arg Ala Thr Trp Thr Cys
Ile Asn Gln Gln Leu Asn Pro Lys Thr Asn Lys Trp Glu Asp Lys Arg
Leu Leu Tyr Ser Gin Ala Lys Ala Glu Ser Asn Ser His His Ala Pro
                        55
```

<210> 31 <211> 310 <212> PRT <213> Aspergillus fumigatus (Sartorya fumigata)

(213) Aspergillus fumigatus (Sartorya fumigata)

<400> 31 Met Ala Ala Leu Leu Arg Leu Ala Val Leu Leu 🗗 ro Leu Ala Ala Pro 10 Leu Val Ala Thr Leu Pro Thr Ser Pro Val Pro/Ile Ala Ala Arg Ala Thr Pro His Glu Pro Val Phe Phe Ser Trp Asp Ala Gly Ala Val Thr Ser Phe Pro Ile His Ser Ser Cys Asn Ala #hr Gln Arg Arg Gln Ile Glu Ala Gly Leu Asn Glu Ala Val Glu Ley Ala Arg His Ala Lys Ala His Ile Leu Arg Trp Gly Asn Glu Ser G $\!I\!\!/\!\!/\,$ u Ile Tyr Arg Lys Tyr Phe 85 Gly Asn Arg Pro Thr Met Glu Ala Val Gly Ala Tyr Asp Val Ile Val 100 105 Asn Gly Asp Lys Ala Asn Val Leu Ph# Arg Cys Asp Asn Pro Asp Gly 120 125 Asn Cys Ala Leu Glu Gly Trp Gly GAy His Trp Arg Gly Ala Asn Ala 135 Thr Ser Glu Thr Val Ile Cys Asp Arg Ser Tyr Thr Thr Arg Arg Trp Leu Val Ser Met Cys Ser Gln Gly Tyr Thr Val Ala Gly Ser Glu Thr 170 165 Asn Thr Phe Trp Ala Ser Asp L∲u Met His Arg Leu Tyr His Val Pro 185 Ala Val Gly Gln Gly Trp Val Asp His Phe Ala Asp Gly Tyr Asp Glu 200 205 Val Ile Ala Leu Ala Lys Ser/Asn Gly Thr Glu Ser Thr His Asp Ser 220 215 Glu Ala Phe Glu Tyr Phe Ala Leu Glu Ala Tyr Ala Phe Asp Ile Ala 235 230 Ala Pro Gly Val Gly Cys Ala Gly Glu Ser His Gly Pro Asp Gln Gly 250 His Asp Thr Gly Ser Ala Ser Ala Pro Ala Ser Thr Ser Thr Ser Ser

Ser Ser Ser Gly Ser Gly Ser Gly Ala Thr Thr Pro Thr Asp Ser

```
280
Pro Ser Ala Thr Ile Asp Val Pro Ser Asn Cys His Thr His Glu Gly
                        295
Gly Gln Leu His Cys Thr
<210> 32
<211> 168
<212> PRT
<213> Aspergillus fumigatus (Sartorya fumigata)
<400> 32
Met Ser Gly Leu Lys Ala Gly Asp Ser Phe Pro Ser Asp/Val Val Phe
Ser Tyr Ile Pro Trp Ser Glu Asp Lys Gly Glu Ile Thr Ala Cys Gly
Ile Pro Ile Asn Tyr Asn Ala Ser Lys Glu Trp Ala/Asp Lys Lys Val
Ile Leu Phe Ala Leu Pro Gly Ala Phe Thr Pro Vál Cys Ser Ala Arg
His Val Pro Glu Tyr Ile Glu Lys Leu Pro Glu/Ile Arg Ala Lys Gly
Val Asp Val Val Ala Val Leu Ala Tyr Asn Asp Ala Tyr Val Met Ser
                85
                                    90
Ala Trp Gly Lys Ala Asn Gln Val Thr Gly/Asp Asp Ile Leu Phe Leu
                                105
            100
Ser Asp Pro Asp Ala Arg Phe Ser Lys Sér Ile Gly Trp Ala Asp Glu
                            120
Glu Gly Arg Thr Lys Arg Tyr Ala Leu/Val Ile Asp His Gly Lys Ile
                        135
                                             140
Thr Tyr Ala Ala Leu Glu Pro Ala Ly's Asn His Leu Glu Phe Ser Ser
                    150
Ala Glu Thr Val Leu Lys His Leu
                165
<210> 33
<211> 152
<212> PRT
<213> Aspergillus fumigatus/ (Sartorya fumigata)
<400> 33
Met Lys Phe Thr Thr Pro Lie Ser Leu Ile Ser Leu Phe Val Ser Ser
                                     10
Ala Leu Ala Ala Pro Thr Pro Glu Asn Glu Ala Arg Asp Ala Ile Pro
Val Ser Val Ser Tyr Asp Pro Arg Tyr Asp Asn Ala Gly Thr Ser Met
Asn Asp Val Ser Cys Sér Asn Gly Val Asn Gly Leu Val Thr Lys Trp
                        55
Pro Thr Phe Gly Ser Nal Pro Gly Phe Ala Arg Ile Gly Gly Ala Pro
                                         75
Thr Ile Pro Gly Trp Asn Ser Pro Asn Cys Gly Lys Cys Tyr Lys Leu
Gln Tyr Glu Gln Aş'n Thr Ile Tyr Val Thr Ala Ile Asp Ala Ala Pro
            100.
                                 105
```

```
Gly Gly Phe Asn Ile Ala Thr Ser Ala Met Asp Gln Leu Thr Ash Gly
                                                 125
                            120
Met Ala Val Glu Leu Gly Arg Val Gln Ala Thr Tyr Glu Glu Ala Asp
                        135
Pro Ser His Cys Ala Ser Gly Val
<210> 34
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)
<400> 34
Gly Val Phe Asn Tyr Glu Thr Glu Thr Thr Ser #al Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
                            40
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe/Pro Glu Gly Phe Pro Phe
                                            60
Lys Tyr Val Lys Asp Arg Val Asp Glu Va/1 Asp His Thr Asn Phe Lys
                    70
                                        75
Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Ile Gly Asp Thr Leu Glu
Lys Ile Ser Asn Glu Ile Lys Ile Val/Ala Thr Pro Asp Gly Gly Ser
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
                            120
Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
                                            140
                        135
Arg Ala Val Glu Ser Tyr Leu Leu/Ala His Ser Asp Ala Tyr Asn
                    150
<210> 35
<211> 159
<213> Betula verrucosa (White birch) (Betula pendula)
Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe Ide Leu Glu Gly Asp Thr Leu Ile Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys/Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe
Lys Tyr Val Lys Glu Ar¢ Val Asp Glu Val Asp His Ala Asn Phe Lys
                                        75
Tyr Ser Tyr Ser Met I∤e Glu Gly Gly Ala Leu Gly Asp Thr Leu Glu
Lys Ile Cys Asn Glu I/le Lys Ile Val Ala Thr Pro Asp Gly Gly Ser
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp Gln Glu Met
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115
                            120
Lys Ala Glu His Met Lys Ala Ile Lys Glu Lys Gly Glu Ala Leu /Leu
                        135
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Aşh
                    150
<210> 36
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)
<400> 36
Gly Val Phe Asn Tyr Glu Ile Glu Thr Thr Ser Val #le Pro Ala Ala
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn/Leu Val Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn I∤e Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys Lys Ile Asn Phe Pro Elu Gly Phe Pro Phe
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
                    70
Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
                                    90
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala 7hr Pro Asp Gly Gly Cys
                                105
Val Leu Lys Ile Ser Asn Lys Tyr His Thr/Lys Gly Asn His Glu Val
                            120
Lys Ala Glu Gln Val Lys Ala Ser Lys Glp Met Gly Glu Thr Leu Leu
                        135
Arg Ala Val Glu Ser Tyr Leu Leu Ala Has Ser Asp Ala Tyr Asn
<210> 37
<211> 159
<212> PRT
<213> Betula verrucosa (White birgh) (Betula pendula)
<400> 37
Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Ile Pro Phe
Lys Tyr Val Lys Gly Arg Val A$p Glu Val Asp His Thr Asn Phe Lys
                                         75
                    70
Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
                                    90
Lys Ile Ser Asn Glu Ile Lys | Tle Val Ala Thr Pro Asn Gly Gly Ser
                                105
Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
                            120
        115
```

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Lys Ala Glu Gln Ile Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Zeu
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Aşn
                     150
<210> 38
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)
<400> 38
Gly Val Phe Asn Tyr Glu Ile Glu Ala Thr Ser Va/1 Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp. Asn Leu Phe Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asm Ile Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe ₱ro Glu Gly Phe Pro Phe
Lys Tyr Val Lys Asp Arg Val Asp Glu Val/Asp His Thr Asn Phe Lys
Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pfo Val Gly Asp Thr Leu Glu
                 8.5
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asn Gly Gly Ser
                                 105
Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
                             120
Lys Ala Glu Gln Ile Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
                         135
Arg Ala Val Glu Ser Tyr Leu Leu/Ala His Ser Asp Ala Tyr Asn
                     150
<210> 39
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)
Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe The Leu Glu Gly Asp Asn Leu Ile Pro Lys
Val Ala Pro Gln Ala Ile/Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys Lys Ile Asn Phe Pro Glu Gly Phe Pro Phe
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
Tyr Asn Tyr Ser Val /Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
                                      90
                 85
Lys Ile Ser Asn Glu/Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Cys
Val Leu Lys Ile Set \!\!\!\! / \hspace{1mm} \!\!\! / Asn Lys Tyr His Thr Lys Gly Asn His Glu Val
                             120
Lys Ala Glu Gln Vall Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
```

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135
                                             140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
                    150
<210> 40
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula perdula)
<400> 40
Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Mal Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
                             40
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe/Pro Glu Gly Phe Pro Phe
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
                                         75
Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
                                     90
                85
Lys Ile Ser Asn Glu Ile Lys Ile Va/ Ala Thr Pro Asn Gly Gly Ser
Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
                            120
Lys Ala Glu Gln Ile Lys Ala Ser/Lys Glu Met Gly Glu Thr Leu Leu
                        135
Arg Ala Val Glu Ser Tyr Leu Le/u Ala His Ser Asp Ala Tyr Asn
                    150
<210> 41
<211> 159
<212> PRT
<213> Betula verrucosa (Whatte birch) (Betula pendula)
<400> 41
Gly Val Phe Asn Tyr Glu oldsymbol{arphi}er Glu Thr Thr Ser Val Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe /Ile Leu Glu Gly Asp Thr Leu Ile Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe
                        5.5
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp His Ala Asn Phe Lys
Tyr Ser Tyr Ser Met | fle Glu Gly Gly Ala Leu Gly Asp Thr Leu Glu
                                     90
                85
Lys Ile Cys Asn Glu/Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Ser
                                 105
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu Met
                             120
Lys Ala Glu His Met Lys Ala Ile Lys Glu Lys Gly Glu Ala Leu Leu
                        135
                                             140
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Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145
<210> 42
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendyla)
<400> 42
Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala Ala
Arg Met Phe Lys Ala Phe Ile Leu Asp Gly Asp Lys Leu Val Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn/Ile Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys Lys Ile Asn Phe Pro Glu Gly Phe Pro Phe
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
                    70
Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pr\phi' Val Gly Asp Thr Leu Glu
                85
Lys Ile Ser Asn Glu Ile Lys Ile Val Afa Thr Pro Asp Gly Gly Cys
                                105
                                                     110
            100
Val Leu Lys Ile Ser Asn Lys Tyr His /Thr Lys Gly Asn His Glu Val
                            120
Lys Ala Glu Gln Val Lys Ala Ser Ly$ Glu Met Gly Glu Thr Leu Leu
                        135
Arg Ala Val Glu Ser Tyr Leu Leu A/a His Ser Asp Ala Tyr Asn
                    150
<210> 43
<211> 159
<212> PRT
<213> Betula verrucosa (White/birch) (Betula pendula)
<400> 43
Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Ile Pro Lys
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe
Lys Tyr Val Lys Glu Arg \rlap/Val Asp Glu Val Asp His Ala Asn Phe Lys
Tyr Ser Tyr Ser Met Ile Glu Gly Gly Ala Leu Gly Asp Thr Leu Glu
                85
                                     90
Lys Ile Cys Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Ser
                                                     110
                                105
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu Met
                            120
Lys Ala Glu His Met Lys Ala Ile Lys Glu Lys Gly Glu Ala Leu Leu
Arg Ala Val Glu Ser/Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
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145

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<210> 44
<211> 133
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)
<400> 44
Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys/Asp Ile Asp
                                     10
Gly Gln Ala Ser Asn Ser Leu Ala Ser Ala Ile Val G∤y His Asp Gly
Ser Val Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe/Lys Pro Gln Glu
Ile Thr Gly Ile Met Lys Asp Phe Glu Glu Pro Gl/y His Leu Ala Pro
Thr Gly Leu His Leu Gly Gly Ile Lys Tyr Met yal Ile Gln Gly Glu
Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser/Gly Gly Ile Thr Ile
Lys Lys Thr Gly Gln Ala Leu Val Phe Gly I1/e Tyr Glu Glu Pro Val
                                105
            1.00
Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu
                            120
                                                 125
Ile Asp Gln Gly Leu
    130
<210> 45
<211> 205
<212> PRT
<213> Betula verrucosa (White birch/ (Betula pendula)
<400> 45
Met Pro Cys Ser Thr Glu Ala Met Gl/u Lys Ala Gly His Gly His Ala
                                     10
Ser Thr Pro Arg Lys Arg Ser Leu Ser Asn Ser Ser Phe Arg Leu Arg
Ser Glu Ser Leu Asn Thr Leu Arg/Leu Arg Arg Ile Phe Asp Leu Phe
Asp Lys Asn Ser Asp Gly Ile Ild Thr Val Asp Glu Leu Ser Arg Ala
Leu Asn Leu Leu Gly Leu Glu Thr Asp Leu Ser Glu Leu Glu Ser Thr
                    70
                                         75
Val Lys Ser Phe Thr Arg Glu 📢 ly Asn Ile Gly Leu Gln Phe Glu Asp
Phe Ile Ser Leu His Gln Ser/Leu Asn Asp Ser Tyr Phe Ala Tyr Gly
                                 105
Gly Glu Asp Glu Asp Asp Asp Glu Glu Asp Met Arg Lys Ser Ile Leu
                                                 125
                            120
Ser Gln Glu Glu Ala Asp Ser Phe Gly Gly Phe Lys Val Phe Asp Glu
Asp Gly Asp Gly Tyr Ile Ser Ala Arg Glu Leu Gln Met Val Leu Gly
                    150
                                         155
Lys Leu Gly Phe Ser Glu \phily Ser Glu Ile Asp Arg Val Glu Lys Met
                165
                                     170
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Ile Val Ser Val Asp Ser Asn Arg Asp Gly Arg Val Asp Phe Phe Glu
                                 185
Phe Lys Asp Met Met Arg Ser Val Leu Val Arg Ser Ser
        195
                             200
<210> 46
<211> 352
<212> PRT
<213> Blattella germanica (German cockroach)
<400> 46
Met Ile Gly Leu Lys Leu Val Thr Val Leu Phe Ala Va/1 Ala Thr Ile
Thr His Ala Ala Glu Leu Gln Arg Val Pro Leu Tyr ♯ys Leu Val His
Val Phe Ile Asn Thr Gln Tyr Ala Gly Ile Thr Lys Ile Gly Asn Gln
Asn Phe Leu Thr Val Phe Asp Ser Thr Ser Cys Asn Val Val Ala
Ser Gln Glu Cys Val Gly Gly Ala Cys Val Cys Pro Asn Leu Gln Lys
Tyr Glu Lys Leu Lys Pro Lys Tyr Ile Ser Asp/ Gly Asn Val Gln Val
                                     90
                85
Lys Phe Phe Asp Thr Gly Ser Ala Val Gly A‡g Gly Ile Glu Asp Ser
                                 105
Leu Thr Ile Ser Asn Leu Thr Thr Ser Gln $\oldsymbol{\psi}$ln Asp Ile Val Leu Ala
                             120
Asp Glu Leu Ser Gln Glu Val Cys Ile Leu/Ser Ala Asp Val Val Val
                         135
Gly Ile Ala Ala Pro Gly Cys Pro Asn Al/a Leu Lys Gly Lys Thr Val
                    150
                                         155
Leu Glu Asn Phe Val Glu Glu Asn Leu ∜le Ala Pro Val Phe Ser Ile
                165
His His Ala Arg Phe Gln Asp Gly Glu/His Phe Gly Glu Ile Ile Phe
                                 185/
Gly Gly Ser Asp Trp Lys Tyr Val Asp Gly Glu Phe Thr Tyr Val Pro
                             200
Leu Val Gly Asp Asp Ser Trp Lys Phe Arg Leu Asp Gly Val Lys Ile
                         215
                                             220
Gly Asp Thr Thr Val Ala Pro Ala Gly Thr Gln Ala Ile Ile Asp Thr
                    230
                                         235
Ser Lys Ala Ile Ile Val Gly Pr\phi Lys Ala Tyr Val Asn Pro Ile Asn
                245
Glu Ala Ile Gly Cys Val Val G\!\!\!/\!\!\!/\,u Lys Thr Thr Arg Arg Ile Cys
                                 265
Lys Leu Asp Cys Ser Lys Ile pro Ser Leu Pro Asp Val Thr Phe Val
                            /280
Ile Asn Gly Arg Asn Phe Asn/Ile Ser Ser Gln Tyr Tyr Ile Gln Gln
                                              300
Asn Gly Asn Leu Cys Tyr Ser Gly Phe Gln Pro Cys Gly His Ser Asp
                                         315
                    310
His Phe Phe Ile Gly Asp Phe Phe Val Asp His Tyr Tyr Ser Glu Phe
                                     330
Asn Trp Glu Asn Lys Thr Met Gly Phe Gly Arg Ser Val Glu Ser Val
                                 345
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<210> 47
<211> 182
<212> PRT
<213> Blattella germanica (German cockroach)
<400> 47
Ala Val Leu Ala Leu Cys Ala Thr Asp Thr Leu Ala Asm Glu Asp Cys
                                    10
Phe Arg His Glu Ser Leu Val Pro Asn Leu Asp Tyr, Glu Arg Phe Arg
                                25
Gly Ser Trp Ile Ile Ala Ala Gly Thr Ser Glu Al⁄a Leu Thr Gln Tyr
Lys Cys Trp Ile Asp Arg Phe Ser Tyr Asp Asp/Ala Leu Val Ser Lys
Tyr Thr Asp Ser Gln Gly Lys Asn Arg Thr Thr Ile Arg Gly Arg Thr
Lys Phe Glu Gly Asn Lys Phe Thr Ile Asp, Tyr Asn Asp Lys Gly Lys
Ala Phe Ser Ala Pro Tyr Ser Val Leu Alá Thr Asp Tyr Glu Asn Tyr
                                105
Ala Ile Val Glu Gly Cys Pro Ala Ala Ala Asn Gly His Val Ile Tyr
                            120
                                                 125
Val Gln Ile Arg Phe Ser Val Arg Arg Phe His Pro Lys Leu Gly Asp
                        135
Lys Glu Met Ile Gln His Tyr Thr Leu Asp Gln Val Asn Gln His Lys
                    150
                                        155
Lys Ala Ile Glu Glu Asp Leu Lys/His Phe Asn Leu Lys Tyr Glu Asp
                165
                                    170
Leu His Ser Thr Cys His
            180
<210> 48
<211> 203
<212> PRT
<213> Blattella germaniçá (German cockroach)
<400> 48
Ala Pro Ser Tyr Lys Leu Thr Tyr Cys Pro Val Lys Ala Leu Gly Glu
Pro Ile Arg Phe Leu Leu Ser Tyr Gly Glu Lys Asp Phe Glu Asp Tyr
Arg Phe Gln Glu Gly Asp Trp Pro Asn Leu Lys Pro Ser Met Pro Phe
                            40
Gly Lys Thr Pro V∮l Leu Glu Ile Asp Gly Lys Gln Thr His Gln Ser
Val Ala Ile Ser Arg Tyr Leu Gly Lys Gln Phe Gly Leu Ser Gly Lys
Asp Asp Trp Gly Asn Leu Glu Ile Asp Met Ile Val Asp Thr Ile Ser
                                    90
                85
Asp Phe Arg A∤a Ala Ile Ala Asn Tyr His Tyr Asp Ala Asp Glu Asn
Ser Lys Gln Lys Lys Trp Asp Pro Leu Lys Lys Glu Thr Ile Pro Tyr
                            120
Tyr Thr Lys/Lys Phe Asp Glu Val Val Lys Ala Asn Gly Gly Tyr Leu
    130
                        135
                                             140
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Ala Ala Gly Lys Leu Thr Trp Ala Asp Phe Tyr Phe Val Ala Ile Leu
145
Asp Tyr Leu Asn His Met Ala Lys Glu Asp Leu Val Ala Asn Gln Pro
                                    170
                165
Asn Leu Lys Ala Leu Arg Glu Lys Val Leu Gly Leu Pro A/a Ile Lys
                                185
Ala Trp Val Ala Lys Arg Pro Pro Thr Asp Leu
<210> 49
<211> 144
<212> PRT
<213> Blomia tropicalis (Mite)
<400> 49
Met Lys Ser Val Leu Ile Phe Leu Val Ala I/le Ala Leu Phe Ser Ala
                                    10
Asn Ile Val Ser Ala Asp Glu Gln Thr Thr/Arg Gly Arg His Thr Glu
                                25
Pro Asp Asp His His Glu Lys Pro Thr Thr Gln Cys Thr His Glu Glu
Thr Thr Ser Thr Gln His His His Glu Elu Val Val Thr Thr Gln Thr
                                             60
                        5.5
Pro His His Glu Glu Lys Thr Thr Thr Glu Glu Thr His His Ser Asp
                    70
Asp Leu Ile Val His Glu Gly Gly L/s Thr Tyr His Val Val Cys His
Glu Glu Gly Pro Ile His Ile Gln /Glu Met Cys Asn Lys Tyr Ile Ile
            100
                                105
Cys Ser Lys Ser Gly Ser Leu Trp Tyr Ile Thr Val Met Pro Cys Ser
Ile Gly Thr Lys Phe Asp Pro 1/1e Ser Arg Asn Cys Val Leu Asp Asn
                        135
<210> 50
<211> 172
<212> PRT
<213> Bos taurus (Bovine)
Met Lys Ala Val Phe Ley Thr Leu Leu Phe Gly Leu Val Cys Thr Ala
                                     10
Gln Glu Thr Pro Ala GIu Ile Asp Pro Ser Lys Ile Pro Gly Glu Trp
                                25
Arg Ile Ile Tyr Ala Ala Asp Asn Lys Asp Lys Ile Val Glu Gly
Gly Pro Leu Arg Asn/Tyr Tyr Arg Arg Ile Glu Cys Ile Asn Asp Cys
Glu Ser Leu Ser Ile Thr Phe Tyr Leu Lys Asp Gln Gly Thr Cys Leu
                    70
                                         75
Leu Leu Thr Glu Val Ala Lys Arg Gln Glu Gly Tyr Val Tyr Val Leu
Glu Phe Tyr Gly Thr Asn Thr Leu Glu Val Ile His Val Ser Glu Asn
Met Leu Val Thr/Tyr Val Glu Asn Tyr Asp Gly Glu Arg Ile Thr Lys
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120
        115
Met Thr Glu Gly Leu Ala Lys Gly Thr Ser Phe Thr Pro Glu Glu Leu
                        135
Glu Lys Tyr Gln Gln Leu Asn Ser Glu Arg Gly Val Pro Asn Gly Asn
                    150
                                        155
Ile Glu Asn Leu Ile Lys Thr Asp Asn Cys Pro Pro
                165
<210> 51
<211> 178
<212> PRT
<213> Bos taurus (Bovine)
<400> 51
Met Lys Cys Leu Leu Leu Ala Leu Ala Leu Thr Cy Gly Ala Gln Ala
Leu Ile Val Thr Gln Thr Met Lys Gly Leu Asp I/Le Gln Lys Val Ala
Gly Thr Trp Tyr Ser Leu Ala Met Ala Ala Ser/Asp Ile Ser Leu Leu
Asp Ala Gln Ser Ala Pro Leu Arg Val Tyr Va/ Glu Glu Leu Lys Pro
                        55
Thr Pro Glu Gly Asp Leu Glu Ile Leu Leu 🖣 ln Lys Trp Glu Asn Gly
                    70
Glu Cys Ala Gln Lys Lys Ile Ile Ala Glu/Lys Thr Lys Ile Pro Ala
Val Phe Lys Ile Asp Ala Leu Asn Glu Ash Lys Val Leu Val Leu Asp
                                105
Thr Asp Tyr Lys Lys Tyr Leu Leu Phe Cys Met Glu Asn Ser Ala Glu
                            120
                                                 125
Pro Glu Gln Ser Leu Ala Cys Gln Cys/Leu Val Arg Thr Pro Glu Val
                        135
Asp Asp Glu Ala Leu Glu Lys Phe Asp Lys Ala Leu Lys Ala Leu Pro
                                        155
                    150
Met His Ile Arg Leu Ser Phe Asn Pro Thr Gln Leu Glu Glu Gln Cys
                                    170
                165
His Ile
<210> 52
<211> 129
<212> PRT
<213> Brassica juncea (Leaf/mustard) (Indian mustard)
<400> 52
Ala Gly Pro Phe Arg Phe Pro Arg Cys Arg Lys Glu Phe Gln Gln Ala
Gln His Leu Arg Ala Cys Gln Gln Trp Leu His Lys Gln Ala Met Gln
                                25
Ser Gly Ser Gly Pro Gln/Pro Gln Gly Pro Gln Gln Arg Pro Pro Leu
Leu Gln Gln Cys Cys As\notH Glu Leu His Gln Glu Pro Leu Cys Val
Cys Pro Thr Leu Lys G∦y Ala Ser Lys Ala Val Lys Gln Gln Ile Arg
                                      . 75 .
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Gln Gln Gly Gln Gln Gly Gln Gln Gln Gln Leu Gln His Glu
Ile Ser Arg Ile Tyr Gln Thr Ala Thr His Leu Pro Arg Val Cys Asn
                                105
Ile Pro Arg Val Ser Ile Cys Pro Phe Gln Lys Thr Met Pro Gly Pro
                            120
Ser
<210> 53
<211> 350
<212> PRT
<213> Candida albicans (Yeast)
<400> 53
Met Ser Glu Gln Ile Pro Lys Thr Gln Lys Ala Val Va/1 Phe Asp Thr
Asn Gly Gly Gln Leu Val Tyr Lys Asp Tyr Pro Val Pro Thr Pro Lys
Pro Asn Glu Leu Leu Ile His Val Lys Tyr Ser Gl/y Val Cys His Thr
Asp Leu His Ala Arg Lys Gly Asp Trp Pro Leu Ala Thr Lys Leu Pro
                                            60
                        55
Leu Val Gly Gly His Glu Gly Ala Gly Val Val Gly Met Gly Glu
Asn Val Lys Gly Trp Lys Ile Gly Asp Phe Ala Gly Ile Lys Trp Leu
Asn Gly Ser Cys Met Ser Cys Glu Phe Cys/Gln Gln Gly Ala Glu Pro
            100
                                105
Asn Cys Gly Glu Ala Asp Leu Ser Gly T∳r Thr His Asp Gly Ser Phe
                            120
                                                125
Glu Gln Tyr Ala Thr Ala Asp Ala Val Gln Ala Ala Lys Ile Pro Ala
                        135
Gly Thr Asp Leu Ala Asn Val Ala Pro Ile Leu Cys Ala Gly Val Thr
                    150
                                        155
Val Tyr Lys Ala Leu Lys Thr Ala Asp Leu Ala Ala Gly Gln Trp Val
                                    170
                165
Ala Ile Ser Gly Ala Gly Gly Gly/Leu Gly Ser Leu Ala Val Gln Tyr
                                185
Ala Arg Ala Met Gly Leu Arg Val Val Ala Ile Asp Gly Gly Asp Glu
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Lys Gly Glu Phe Val Lys Ser Leu Gly Ala Glu Ala Tyr Val Asp Phe

290
Ala Glu Ala Ile Asp Phe Phe Ser Arg Gly Leu Ile Lys Cys Pro Ile
305
310
320
Lys Ile Val Gly Leu Ser Asp Leu Pro Glu Val Phe Lys Leu Met Glu

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330
                                                         335
                325
Glu Gly Lys Ile Leu Gly Arg Tyr Val Leu Asp Thr Ser Lys
                                345
<210> 54
<211> 174
<212> PRT
<213> Canis familiaris (Dog)
<400> 54
Met Lys Thr Leu Leu Thr Ile Gly Phe Ser Leu Ile Ala Ile Leu
Gln Ala Gln Asp Thr Pro Ala Leu Gly Lys Asp Thr Val/Ala Val Ser
Gly Lys Trp Tyr Leu Lys Ala Met Thr Ala Asp Gln Glu Val Pro Glu
                            40
Lys Pro Asp Ser Val Thr Pro Met Ile Leu Lys Ala Gln Lys Gly Gly
Asn Leu Glu Ala Lys Ile Thr Met Leu Thr Asn ∉ly Gln Cys Gln Asn
                    70
Ile Thr Val Val Leu His Lys Thr Ser Glu Prø Gly Lys Tyr Thr Ala
                                    90
                85
Tyr Glu Gly Gln Arg Val Val Phe Ile Gln Pro Ser Pro Val Arg Asp
His Tyr Ile Leu Tyr Cys Glu Gly Glu Ley His Gly Arg Gln Ile Arg
                            120
Met Ala Lys Leu Leu Gly Arg Asp Pro ⊄lu Gln Ser Gln Glu Ala Leu
                        135
Glu Asp Phe Arg Glu Phe Ser Arg Ala/ Lys Gly Leu Asn Gln Glu Ile
                    150
                                        155
Leu Glu Leu Ala Gln Ser Glu Thr Cys Ser Pro Gly Gly Gln
                                    170
                165
<210> 55
<211> 180
<212> PRT
<213> Canis familiaris (Dog)
<400> 55
Met Gln Leu Leu Leu Thr/ Val Gly Leu Ala Leu Ile Cys Gly Leu
Gln Ala Gln Glu Gly Asn H‡s Glu Glu Pro Gln Gly Gly Leu Glu Glu
Leu Ser Gly Arg Trp His Ser Val Ala Leu Ala Ser Asn Lys Ser Asp
                            40
Leu Ile Lys Pro Trp Gly/His Phe Arg Val Phe Ile His Ser Met Ser
Ala Lys Asp Gly Asn Ley His Gly Asp Ile Leu Ile Pro Gln Asp Gly
                                        75
Gln Cys Glu Lys Val Ser Leu Thr Ala Phe Lys Thr Ala Thr Ser Asn
                                    90
Lys Phe Asp Leu Glu Tyr Trp Gly His Asn Asp Leu Tyr Leu Ala Glu
                                105
Val Asp Pro Lys Ser/Tyr Leu Ile Leu Tyr Met Ile Asn Gln Tyr Asn
        115
                            120
                                                 125
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Asp Asp Thr Ser Leu Val Ala His Leu Met Val Arg Asp Leu Ser Arg
    130
Gln Gln Asp Phe Leu Pro Ala Phe Glu Ser Val Cys Glu Asp Ile/Gly
                    150
                                        155 .
Leu His Lys Asp Gln Ile Val Val Leu Ser Asp Asp Asp Arg Cys Gln
Gly Ser Arg Asp
<210> 56
<211> 159
<212> PRT
<213> Carpinus betulus (Hornbeam)
<400> 56
Gly Val Phe Asn Tyr Glu Ala Glu Thr Pro Ser/Val Ile Pro Ala Ala
Arg Leu Phe Lys Ser Tyr Val Leu Asp Gly Asp Lys Leu Ile Pro Lys
                                25
Val Ala Pro Gln Val Ile Ser Ser Val Glu Ásn Val Gly Gly Asn Gly
                            40
Gly Pro Gly Thr Ile Lys Asn Ile Thr Phé Ala Glu Gly Ile Pro Phe
                        55
                                            60
Lys Phe Val Lys Glu Arg Val Asp Glu Val Asp Asn Ala Asn Phe Lys
                    70
Tyr Asn Tyr Thr Val Ile Glu Gly Asp Val Leu Gly Asp Lys Leu Glu
Lys Val Ser His Glu Leu Lys Ile Val Ala Ala Pro Gly Gly Ser
                                                    110
            100
Ile Val Lys Ile Ser Ser Lys Phe/His Ala Lys Gly Tyr His Glu Val
                            120
Asn Ala Glu Lys Met Lys Gly Al/a Lys Glu Met Ala Glu Lys Leu Leu
                        135
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Thr Ala Glu Tyr Asn
                    150
                                        155
145
<210> 57
<211> 159
<212> PRT
<213> Carpinus betulus (Hornbeam)
<400> 57
Gly Val Phe Asn Tyr Gfu Ala Glu Thr Thr Ser Val Ile Pro Ala Ala
                                    10
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asn Lys Leu Ile Pro Lys
Val Ser Pro Gln Ala Val Ser Ser Val Glu Asn Val Glu Gly Asn Gly
                           40
Gly Pro Gly Thr I∤e Lys Lys Ile Thr Phe Ser Glu Gly Ser Pro Val
Lys Tyr Val Lys Glu Arg Val Glu Glu Ile Asp His Thr Asn Phe Lys
Tyr Asn Tyr Thr/Val Ile Glu Gly Asp Val Leu Gly Asp Lys Leu Glu
Lys Val Ser Hi$ Glu Leu Lys Ile Val Ala Ala Pro Gly Gly Ser
```

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105
            100
Ile Val Lys Ile Ser Ser Lys Phe His Ala Lys Gly Tyr His Gly Val
Asn Ala Glu Glu Met Lys Gly Ala Lys Glu Met Ala Glu Lys/Leu Leu
                        135
                                            140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Thr Ala Glu Tyr Asn
                    150
<210> 58
<211> 375
<212> PRT
<213> Chamaecyparis obtusa (Japanese cypress)
<400> 58
Met Ala Ser Cys Thr Leu Leu Ala Val Leu Va/1 Phe Leu Cys Ala Ile
Val Ser Cys Phe Ser Asp Asn Pro Ile Asp ≸er Cys Trp Arg Gly Asp
Ala Asn Trp Asp Gln Asn Arg Met Lys Ley Ala Asp Cys Ala Val Gly
                            40
Phe Gly Ser Ser Ala Met Gly Gly Lys GAy Gly Ala Phe Tyr Thr Val
Thr Ser Ser Asp Asp Pro Val Asn/Pro Ala Pro Gly Thr Leu Arg
                    70
                                         7.5
Tyr, Gly Ala Thr Arg Glu Arg Ser Leu Trp Ile Ile Phe Ser Lys Asn
Leu Asn Ile Lys Leu Asn Met Pro Leu Tyr Ile Ala Gly Asn Lys Thr
Ile Asp Gly Arg Gly Ala Glu Va∤ His Ile Gly Asn Gly Gly Pro Cys
Leu Phe Met Arg Thr Val Ser Has Val Ile Leu His Gly Leu Asn Ile
                        135
His Gly Cys Asn Thr Ser Val Ser Gly Asn Val Leu Ile Ser Glu Ala
                    150
                                         155
Ser Gly Val Val Pro Val Hi Ala Gln Asp Gly Asp Ala Ile Thr Met
                                    170
                165
Arg Asn Val Thr Asp Val T\!\!\!/ p Ile Asp His Asn Ser Leu Ser Asp Ser
                                185
Ser Asp Gly Leu Val Asp /al Thr Leu Ala Ser Thr Gly Val Thr Ile
                            200
Ser Asn Asn His Phe Phe Asn His His Lys Val Met Leu Leu Gly His
                        215
Ser Asp Ile Tyr Ser A$p Asp Lys Ser Met Lys Val Thr Val Ala Phe
                                         235
Asn Gln Phe Gly Pro Asn Ala Gly Gln Arg Met Pro Arg Ala Arg Tyr
                245
                                     250
Gly Leu Ile His Val/Ala Asn Asn Asn Tyr Asp Pro Trp Ser Ile Tyr
            260
                                265
Ala Ile Gly Gly Set Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser
                            280
Phe Thr Ala Pro Asn Asp Ser Asp Lys Lys Glu Val Thr Arg Arg Val
                        295
                                             300
Gly Cys Glu Ser Pro Ser Thr Cys Ala Asn Trp Val Trp Arg Ser Thr
                                         315
                    310
Gln Asp Ser Phe/Asn Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Asn
                                     330
```

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Glu Gly Thr Asn Ile Tyr Asn Asn Asn Glu Ala Phe Lys Val Glu Agn
                                345
Gly Ser Ala Ala Pro Gln Leu Thr Lys Asn Ala Gly Val Leu Thr Cys
                            360
Ile Leu Ser Lys Pro Cys Ser
<210> 59
<211> 496
<212> PRT
<213> Cladosporium herbarum
<400> 59
Met Thr Ser Val Gln Leu Glu Thr Pro His Ser G/y Lys Tyr Glu Gln
Pro Thr Gly Leu Phe Ile Asn Asn Glu Phe Val/Lys Gly Gln Glu Gly
                                25
Lys Thr Phe Asp Val Ile Asn Pro Ser Asp G1/u Ser Val Ile Thr Gln
                            40
Val His Glu Ala Thr Glu Lys Asp Val Asp /tle Ala Val Ala Ala Ala
Arg Gln Ala Phe Glu Gly Ser Trp Arg Le# Glu Thr Pro Glu Asn Arg
                                        75
                    70
Gly Lys Leu Leu Asn Asn Leu Ala Asn Leu Phe Glu Lys Asn Thr Asp
                                     90
Leu Leu Ala Ala Val Glu Ser Leu Asp Asn Gly Lys Ala Thr Ser Met
            100
Ala Arg Val Thr Ser Ala Cys Ala Sér Gly Cys Leu Arg Tyr Tyr Gly
                            120
Gly Trp Ala Asp Lys Ile Thr Gly Lys Val Ile Asp Thr Thr Pro Asp
                                             140
                        135
Thr Phe Asn Tyr Val Lys Lys Gl/ Pro Ile Gly Val Cys Arg Ser Asp
                                        155
                    150
His Ser Leu Glu Leu Pro Leu Leu Met Trp Ala Trp Lys Ile Gly Pro
                165
                                    170
Ala Ile Ala Cys Gly Asn Thr /Val Val Leu Lys Thr Ala Glu Gln Thr
            180
                                185
Pro Leu Gly Gly Leu Val Al Ala Ser Leu Val Lys Glu Ala Gly Phe
                           200
                                                 205
Pro Pro Gly Val Ile Asn Val Ile Ser Gly Phe Gly Lys Val Ala Gly
                                             220
Ala Ala Leu Ser Ser His Met Asp Val Asp Lys Val Ala Phe Thr Gly
                    230
Ser Thr Val Val Gly Ard Thr Ile Leu Lys Ala Ala Ala Ser Ser Asn
                245
                                    250
Leu Lys Lys Val Thr Leu Glu Leu Gly Gly Lys Ser Pro Asn Ile Val
            260
                                265
Phe Glu Asp Ala Asp ‡le Asp Asn Ala Ile Ser Trp Val Asn Phe Gly
                            280
                                                 285
Ile Phe Phe Asn His/Gly Gln Cys Cys Cys Ala Gly Ser Arg Val Tyr
                                             300
                        295
Val Gln Glu Ser Il∉ Tyr Asp Lys Phe Val Gln Lys Phe Lys Glu Arg
                                         315
                    310
Ala Gln Lys Asn Val Val Gly Asp Pro Phe Ala Ala Asp Thr Phe Gln
Gly Pro Gln Val $er Lys Val Gln Phe Asp Arg Ile Met Glu Tyr Ile
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340
                                 345
Gln Ala Gly Lys Asp Ala Gly Ala Thr Val Glu Thr Gly Gly Sex Arg
Lys Gly Asp Lys Gly Tyr Phe Ile Glu Pro Thr Ile Phe Ser/Asn Val
                        375
                                             380
Thr Glu Asp Met Lys Ile Val Lys Glu Glu Ile Phe Gly Pro Val Cys
                    390
Ser Ile Ala Lys Phe Lys Thr Lys Glu Asp Ala Ile Lys Leu Gly Asn
                405
                                    410
Ala Ser Thr Tyr Gly Leu Ala Ala Ala Val His Thr ∕Lys Asn Leu Asn
                                425
                                                     430
            420
Thr Ala Ile Glu Val Ser Asn Ala Leu Lys Ala G1/y Thr Val Trp Val
Asn Thr Tyr Asn Thr Leu His His Gln Met Pro Phe Gly Gly Tyr Lys
Glu Ser Gly Ile Gly Arg Glu Leu Gly Glu App Ala Leu Ala Asn Tyr
                    470
Thr Gln Thr Lys Thr Val Ser Ile Arg Leu Gly Asp Ala Leu Phe Gly
                                    490/
<210> 60
```

<211> 111 <212> PRT <213> Cladosporium herbarum

<400> 60 Met Lys Tyr Met Ala Ala Tyr Ley Leu Leu Gly Leu Ala Gly Asn Ser Ser Pro Ser Ala Glu Asp Ile Lys Thr Val Leu Ser Ser Val Gly Ile 25 Asp Ala Asp Glu Glu Arg Leu/Ser Ser Leu Leu Lys Glu Leu Glu Gly Lys Asp Ile Asn Glu Leu Ile Ser Ser Gly Ser Gln Lys Leu Ala Ser Val Pro Ser Gly Gly Ser Gly Ala Ala Pro Ser Ala Gly Gly Ala Ala 75 Ala Ala Gly Gly Ala Thf Glu Ala Ala Pro Glu Ala Ala Lys Glu Glu

Glu Lys Glu Glu Ser Asp Asp Met Gly Phe Gly Leu Phe Asp 100

<210> 61 <211> 643 <212> PRT <213> Cladospori/um herbarum

<400> 61 Met Ala Pro Ala Ile Gly Ile Asp Leu Gly Thr Thr Tyr Ser Cys Val 10 Gly Ile Tyr Arg Asp Asp Arg Ile Glu Ile Ile Ala Asn Asp Gln Gly Asn Arg Thr/Thr Pro Ser Phe Val Ala Phe Thr Asp Thr Glu Arg Leu Ile Gly Asp Ser Ala Lys Asn Gln Val Ala Ile Asn Pro His Asn Thr 50

Val Phe Asp Ala Lys Arg Leu Ile Gly Arg Lys Phe Gln Asp Ala Gl Val Gln Ala Asp Met Lys His Phe Pro Phe Lys Val Ile Glu Lys/Ala Gly Lys Pro Val Thr Gln Val Glu Phe Lys Gly Glu Thr Lys Asp Phe 105 Thr Pro Glu Glu Ile Ser Ser Met Ile Leu Thr Lys Met Arg Glu Thr 120 Ala Glu Ser Tyr Leu Gly Gly Thr Val Asn Asn Ala Val/fle Thr Val 135 Pro Ala Tyr Phe Asn Asp Ser Gln Arg Gln Ala Thr Lys Asp Ala Gly 150 155 Leu Ile Ala Gly Leu Asn Val Leu Arg Ile Ile Asn/Glu Pro Thr Ala 170 165 Ala Ala Ile Ala Tyr Gly Leu Asp Lys Lys Gln Glu Gly Glu Lys Asn 185 Val Leu Ile Phe Asp Leu Gly Gly Gly Thr Phe Asp Val Ser Phe Leu 205 200 Thr Ile Glu Glu Gly Ile Phe Glu Val Lys Sef Thr Ala Gly Asp Thr 220 215 His Leu Gly Gly Glu Asp Phe Asp Asn Arg 1/eu Val Asn His Phe Ser 235 230 Asn Glu Phe Lys Arg Lys His Lys Lys Asp Leu Ser Asp Asn Ala Arg 245 Ala Leu Arg Arg Leu Arg Thr Ala Cys GAu Arg Ala Lys Arg Thr Leu 265 260 Ser Ser Ser Ala Gln Thr Ser Ile Glu/Ile Asp Ser Leu Phe Glu Gly 280 Ile Asp Phe Phe Thr Ser Asn Thr Ang Ala Arg Phe Glu Glu Val Gly 295 Gln Asp Leu Phe Arg Gly Asn Met \$\oldsymbol{\$\psi}\$lu Pro Gly Glu Arg Thr Leu Arg 315 310 Asp Asp Lys Ile Asp Lys Ser Ser Val His Glu Ile Val Leu Gly Gly 330 325 Gly Ser Thr Arg Ile Pro Lys Val Gln Lys Leu Val Ser Asp Phe Phe 345 Asn Gly Lys Glu Pro Cys Lys/Ser Ile Asn Pro Asp Glu Ala Val Ala 360 365 Tyr Gly Ala Ala Val Gln Al/a Ala Ile Leu Ser Gly Asp Thr Ser Ser 380 Lys Ser Thr Lys Glu Ile Leu Leu Leu Asp Val Ala Pro Leu Ser Leu 395 390 Gly Ile Glu Thr Ala Gly Gly Val Met Thr Ala Leu Ile Lys Arg Asn 410 405 Thr Thr Ile Pro Thr Lys Lys Ser Glu Thr Phe Ser Thr Phe Ser Asp 425 Asn Gln Pro Gly Val ≠eu Ile Gln Val Phe Glu Gly Glu Arg Ala Arg 440 445 Thr Lys Asp Ile Asn/Leu Met Gly Lys Phe Glu Leu Ser Gly Ile Arg 460 455 Pro Ala Pro Arg Gl/ Val Pro Gln Ile Glu Val Thr Phe Asp Leu Asp 475 470 Ala Asn Gly Ile Met Asn Val Ser Ala Leu Glu Lys Gly Thr Gly Lys Thr Asn Lys Ile Val Ile Thr Asn Asp Lys Gly Arg Leu Ser Lys Glu 505 Glu Ile Glu Ard Met Leu Ala Asp Ala Glu Lys Tyr Lys Glu Glu Asp

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520
        515
Glu Ala Glu Ala Gly Arg Ile Gln Ala Lys Asn Gly Leu Glu Sex Tyr
Ala Tyr Ser Leu Lys Asn Thr Val Ser Asp Pro Lys Val Glu/Glu Lys
                    550
                                        555
Leu Ser Ala Glu Asp Lys Glu Thr Leu Thr Gly Ala Ile Asp Lys Thr
                565
                                    570
Val Ala Trp Ile Asp Glu Asn Gln Thr Ala Thr Lys Gly Glu Tyr Glu
                                                    590
            580
                                585
Ala Glu Gln Lys Gln Leu Glu Ser Val Ala Asn Pro ∦al Met Met Lys
                            600
                                                 605
Ile Tyr Gly Ala Glu Gly Gly Ala Pro Gly Gly Meft Pro Gly Gln Gly
                        615
Ala Gly Ala Pro Pro Pro Gly Ala Gly Asp Asp Asp Pro Thr Val Glu
                                        635
                    630
Glu Val Asp
<210> 62
<211> 112
<212> PRT
<213> Cladosporium herbarum
<400> 62
Met Lys Tyr Leu Ala Ala Phe Leu Leu Leu Gly Leu Ala Gly Asn Ser
Ser Pro Ser Ala Glu Asp Ile Lys Thr Val Leu Ser Ser Val Gly Ile
Asp Ala Asp Glu Glu Arg Leu Ser /Ser Leu Leu Lys Glu Leu Glu Gly
Lys Asp Ile Asn Glu Leu Ile Sef Ser Gly Ser Glu Lys Leu Ala Ser
Val Pro Ser Gly Gly Ala Gly Ala Ser Ala Gly Gly Ala Ala Ala
                    70
                                        75
Ala Gly Gly Ala Ala Glu Ala/Ala Pro Glu Ala Glu Arg Ala Glu Glu
                85
                                    90
Glu Lys Glu Glu Ser Asp Asp Asp Met Gly Phe Gly Leu Phe Asp Glx
                                105
<210> 63
<211> 204
<212> PRT
<213> Cladosporium herbarum
<400> 63
Met Ala Pro Lys Ile Ala Ile Ile Phe Tyr Ser Thr Trp Gly His Val
Gln Thr Leu Ala Glu/Ala Glu Ala Lys Gly Ile Arg Glu Ala Gly Gly
                                25
            20
Ser Val Asp Leu Ty/r Arg Val Pro Glu Thr Leu Thr Gln Glu Val Leu
                            40
                                                 45
Thr Lys Met His A/la Pro Pro Lys Asp Asp Ser Ile Pro Glu Ile Thr
Asp Pro Phe Ile Leu Glu Gln Tyr Asp Arg Phe Pro His Gly His Pro
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Thr Arg Tyr Gly Asn Phe Pro Ala Gln Trp Arg Thr Phe Trp Asp Arg
Thr Gly Gly Gln Trp Gln Thr Gly Ala Phe Trp Gly Lys Tyr Ala Gly
                                                    110
                                105
Leu Phe Ile Ser Thr Gly Thr Gln Gly Gly Gln Glu Ser/Thr Ala
                            120
Leu Ala Ala Met Ser Thr Leu Ser His His Gly Ile Ile Tyr Val Pro
                        135
                                            140
Leu Gly Tyr Lys Thr Thr Phe His Leu Leu Gly Asp Ash Ser Glu Val
                                        155
                    150
Arg Gly Ala Ala Val Trp Gly Ala Gly Thr Phe Ser/Gly Gly Asp Gly
                                    170
Ser Arg Gln Pro Ser Gln Lys Glu Leu Glu Leu Thr Ala Gln Gly Lys
                                185
Ala Phe Tyr Glu Ala Val Ala Lys Val Asn Phe Gln
        195
                            200
```

<210> 64 <211> 440 <212> PRT <213> Cladosporium herbarum

<400> 64 Met Pro Ile Ser Lys Ile His Ser Afg Tyr Val Tyr Asp Ser Arg Gly Asn Pro Thr Val Glu Val Asp Ile/Val Thr Glu Thr Gly Leu His Arg Ala Ile Val Pro Ser Gly Ala S∉r Thr Gly Ser His Glu Ala Cys Glu Leu Arg Asp Gly Asp Lys Ser/Lys Trp Ala Gly Lys Gly Val Thr Lys Ala Val Ala Asn Val Asn GL/u Ile Ile Ala Pro Ala Leu Ile Lys Glu 70 Asn Leu Asp Val Lys Asp \$\oldsymbol{\psi}\$ln Ala Ala Val Asp Ala Phe Leu Asn Lys 90 85 Leu Asp Gly Thr Thr Asn Lys Thr Lys Ile Gly Ala Asn Ala Ile Leu 105 100 Gly Val Ser Met Ala Vál Ala Lys Ala Ala Ala Ala Glu Lys Arg Val 120 Pro Leu Tyr Ala His /Ile Ser Asp Leu Ser Gly Thr Lys Lys Pro Phe 140 Val Leu Pro Val Pr $\phi$  Phe Met Asn Val Val Asn Gly Gly Ser His Ala 155 150 Gly Gly Arg Leu Ala Phe Gln Glu Phe Met Ile Val Pro Ser Gly Ala 170 Pro Ser Phe Thr Glu Ala Met Arg Gln Gly Ala Glu Val Tyr Gln Lys 185 180 Leu Lys Ser Let Thr Lys Lys Arg Tyr Gly Gln Ser Ala Gly Asn Val 195 200 Gly Asp Glu G∜y Gly Val Ala Pro Asp Ile Gln Thr Ala Glu Glu Ala 220 215 Leu Asp Leu ∜le Thr Asp Ala Ile Glu Glu Ala Gly Tyr Thr Gly Gln 235 230 Ile Lys Ile/Ala Met Asp Val Ala Ser Ser Glu Phe Tyr Lys Ala Asp

250

Glu Lys Lys Tyr Asp Leu Asp Phe Lys Asn Pro Asp Ser Asp Lys Ser

```
260
                                265
Lys Trp Ile Thr Tyr Glu Gln Leu Ala Asp Gln Tyr Lys Gln Leu Ala
                            280
Ala Lys Tyr Pro Ile Val Ser Ile Glu Asp Pro Phe Ala Glu 🗡 sp Asp
                        295
                                            300
Trp Glu Ala Trp Ser Tyr Phe Tyr Lys Thr Ser Gly Ser App Phe Gln
                                        315
                    310
Ile Val Gly Asp Asp Leu Thr Val Thr Asn Pro Glu Phe/Ile Lys Lys
                                    330
                325
Ala Ile Glu Thr Lys Ala Cys Asn Ala Leu Leu Leu Lys Val Asn Gln
            340
                                345
Ile Gly Thr Ile Thr Glu Ala Ile Asn Ala Ala Lys Asp Ser Phe Ala
                            360
Ala Gly Trp Gly Val Met Val Ser His Arg Ser/Gly Glu Thr Glu Asp
Val Thr Ile Ala Asp Ile Val Val Gly Leu Axg Ala Gly Gln Ile Lys
                    390
Thr Gly Ala Pro Ala Arg Ser Glu Arg Leu/Ala Lys Leu Asn Gln Ile
Leu Arg Ile Glu Glu Glu Leu Gly Asp Lys Ala Val Tyr Ala Gly Asp
                                425
Asn Phe Arg Thr Ala Ile Asn Leu
        435
<210> 65
<211> 110
<212> PRT
<213> Cladosporium herbarum
<400> 65
Met Ser Ala Ala Glu Leu Ala/Ser Ser Tyr Ala Ala Leu Ile Leu Ala
Asp Glu Gly Leu Glu Ile Thr Ala Asp Lys Leu Gln Ala Leu Ile Ser
Ala Ala Lys Val Pro Glu /Tle Glu Pro Ile Trp Thr Ser Leu Phe Ala
                                                 45
Lys Ala Leu Glu Gly Ly$ Asp Val Lys Asp Leu Leu Leu Asn Val Gly
Ser Gly Gly Gly Ala Ala Pro Ala Ala Gly Gly Ala Ala Ala Gly Gly
Ala Ala Val Leu Asp Ala Pro Ala Glu Glu Lys Ala Glu Glu Glu
                85
Lys Glu Glu Ser Asp/Asp Asp Met Gly Phe Gly Leu Phe Asp
            100
<210> 66
<211> 159
<212> PRT
<213> Corylus avellana (European hazel)
<400> 66
Gly Val Phe A$n Tyr Glu Val Glu Thr Pro Ser Val Ile Pro Ala Ala
Arg Leu Phe ‡ys Ser Tyr Val Leu Asp Gly Asp Lys Leu Ile Pro Lys
                                25
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```
      Val
      Ala
      Pro
      Gln
      Ala
      Ile
      Thr
      Ser
      Val
      Glu
      Asn
      Val
      Glu
      Glu
      Gly
      Asn
      Gly
      Asn
      Ile
      Thr
      Phe
      Gly
      Glu
      Gly
      Asn
      Tyr
      Tyr
      Fer
      Tyr
      Tyr
      Ser
      Asn
      Ile
      Tyr
      Phe
      Gly
      Gly
      Gly
      Asn
      Thr
      Asn
      Tyr
      T
```

<210> 67 <211> 346 <212> PRT <213> Cupressus arizonica

<400> 67 Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp Ser Asn Trp Asp Gln Asn Arg Met Lys Leu Ala Asp Oys Val Val Gly Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Gly Glu/Ile Tyr Thr Val Thr Ser Ser Glu Asp Asn Pro Val Asn Pro Thr P $\not$ to Gly Thr Leu Arg Tyr Gly Ala Thr Arg Glu Lys Ala Leu Trp Ile/Ile Phe Ser Gln Asn Met Asn Ile Lys Leu 70 Gln Met Pro Leu Tyr Va/1 Ala Gly Tyr Lys Thr Ile Asp Gly Arg Gly 90 Ala Val Val His Leu  $ot\hspace{-1pt} \phi$ ly Asn Gly Gly Pro Cys Leu Phe Met Arg Lys 105 Ala Ser His Val Ile/Leu His Gly Leu His Ile His Gly Cys Asn Thr 120 Ser Val Leu Gly A\$p Val Leu Val Ser Glu Ser Ile Gly Val Glu Pro Val His Ala Gln Asp Gly Asp Ala Ile Thr Met Arg Asn Val Thr Asn 155 150 Ala Trp Ile Asp/ His Asn Ser Leu Ser Asp Cys Ser Asp Gly Leu Ile 170 165 Asp Val Thr Leu Gly Ser Thr Gly Ile Thr Ile Ser Asn Asn His Phe 185 Phe Asn His Mis Lys Val Met Leu Leu Gly His Asp Asp Thr Tyr Asp 200 195 Asp Asp Lys/Ser Met Lys Val Thr Val Ala Phe Asn Gln Phe Gly Pro 220 215 Asn Ala Gl/y Gln Arg Met Pro Arg Ala Arg Tyr Gly Leu Val His Val 230 Ala Asn Asn Asn Tyr Asp Gln Trp Asn Ile Tyr Ala Ile Gly Gly Ser 250

Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser Phe Thr Ala Pro Asn

```
265
            260
Glu Ser Tyr Lys Lys Glu Val Thr Lys Arg Ile Gly Cys Glu Thx Thr
Ser Ala Cys Ala Asn Trp Val Trp Arg Ser Thr Arg Asp Ala/Phe Thr
                        295
                                            300
Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Ala Glu Asp Thr Asn Ile
                                        315
                    310
Tyr Asn Ser Asn Glu Ala Phe Lys Val Glu Asn Gly Asn Ala Ala Pro
                325
                                    330
Gln Leu Thr Gln Asn Ala Gly Val Val Ala
            340
<210> 68
<211> 374
<212> PRT
<213> Cryptomeria japonica (Japanese ceda#)
<400> 68
Met Asp Ser Pro Cys Leu Val Ala Leu Leu/Val Leu Ser Phe Val Ile
Gly Ser Cys Phe Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp
                                25
Ser Asn Trp Ala Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly
Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Gly Asp Leu Tyr Thr Val
Thr Asn Ser Asp Asp Pro Val A≸n Pro Ala Pro Gly Thr Leu Arg
Tyr Gly Ala Thr Arg Asp Arg Pro Leu Trp Ile Ile Phe Ser Gly Asn
Met Asn Ile Lys Leu Lys Met Pr\phi Met Tyr Ile Ala Gly Tyr Lys Thr
                               105
Phe Asp Gly Arg Gly Ala Gln Vall Tyr Ile Gly Asn Gly Gly Pro Cys
Val Phe Ile Lys Arg Val Ser Asn Val Ile Ile His Gly Leu His Leu
                        135
                                            140
Tyr Gly Cys Ser Thr Ser Val/Leu Gly Asn Val Leu Ile Asn Glu Ser
                                        155
Phe Gly Val Glu Pro Val Hi/s Pro Gln Asp Gly Asp Ala Leu Thr Leu
                                    170
Arg Thr Ala Thr Asn Ile 7rp Ile Asp His Asn Ser Phe Ser Asn Ser
                                185
            180
Ser Asp Gly Leu Val Asp/Val Thr Leu Ser Ser Thr Gly Val Thr Ile
                            200
Ser Asn Asn Leu Phe Ph∉ Asn His His Lys Val Met Leu Leu Gly His
                                            220
                       215
Asp Asp Ala Tyr Ser Asp Lys Ser Met Lys Val Thr Val Ala Phe
                                        235
Asn Gln Phe Gly Pro Asn Cys Gly Gln Arg Met Pro Arg Ala Arg Tyr
                                    250
                245
Gly Leu Val His Val/Ala Asn Asn Asn Tyr Asp Pro Trp Thr Ile Tyr
                                265
Ala Ile Gly Gly Se‡ Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser
                            280
Phe Thr Ala Pro A$n Glu Ser Tyr Lys Lys Gln Val Thr Ile Arg Ile
                        295
```

<212> PRT <213> Cryptomeria japonica (Japanese cedar) Met Ala Met Lys Phe Ile Ala Pro Met Ala Phe Val Ala Met Gln Leu 10 Ile Ile Met Ala Ala Ala Glu Asp Gln Ser/Ala Gln Ile Met Leu Asp Ser Asp Ile Glu Gln Tyr Leu Arg Ser Ash Arg Ser Leu Arg Lys Val 40 4.5 Glu His Ser Arg His Asp Ala Ile Asn Inle Phe Asn Val Glu Lys Tyr Gly Ala Val Gly Asp Gly Lys His Asp/Cys Thr Glu Ala Phe Ser Thr Ala Trp Gln Ala Ala Cys Lys Lys Pr $\phi$  Ser Ala Met Leu Leu Val Pro Gly Asn Lys Lys Phe Val Val Asn A\$n Leu Phe Phe Asn Gly Pro Cys 1/05 Gln Pro His Phe Thr Phe Lys Val Asp Gly Ile Ile Ala Ala Tyr Gln 120 Asn Pro Ala Ser Trp Lys Asn Asn/Arg Ile Trp Leu Gln Phe Ala Lys 135 140 Leu Thr Gly Phe Thr Leu Met Gl# Lys Gly Val Ile Asp Gly Gln Gly 150 155 Lys Gln Trp Trp Ala Gly Gln Cts Lys Trp Val Asn Gly Arg Glu Ile 165 170 Cys Asn Asp Arg Asp Arg Pro Thr Ala Ile Lys Phe Asp Phe Ser Thr 185 Gly Leu Ile Ile Gln Gly Leu/Lys Leu Met Asn Ser Pro Glu Phe His 200 Leu Val Phe Gly Asn Cys Gly Gly Val Lys Ile Ile Gly Ile Ser Ile 220 Thr Ala Pro Arg Asp Ser Pfo Asn Thr Asp Gly Ile Asp Ile Phe Ala 230 235 Ser Lys Asn Phe His Leu **#**In Lys Asn Thr Ile Gly Thr Gly Asp Asp 250 245 Cys Val Ala Ile Gly Thr/Gly Ser Ser Asn Ile Val Ile Glu Asp Leu 265 260 Ile Cys Gly Pro Gly Hi\$ Gly Ile Ser Ile Gly Ser Leu Gly Arg Glu Asn Ser Arg Ala Glu Val Ser Tyr Val His Val Asn Gly Ala Lys Phe Ile Asp Thr Gln Asn & Leu Arg Ile Lys Thr Trp Gln Gly Gly Ser

```
315
                   310
305
Gly Met Ala Ser His Ile Ile Tyr Glu Asn Val Glu Met Ile Asn Sex
                                   330
Glu Asn Pro Ile Leu Ile Asn Gln Phe Tyr Cys Thr Ser Ala Ser/Ala
                               345
Cys Gln Asn Gln Arg Ser Ala Val Gln Ile Gln Asp Val Thr Tyr Lys
                           360
Asn Ile Arg Gly Thr Ser Ala Thr Ala Ala Ala Ile Gln Ley Lys Cys
                                           380
                       375
Ser Asp Ser Met Pro Cys Lys Asp Ile Lys Leu Ser Asp / fle Ser Leu
                   390
                                       395
Lys Leu Thr Ser Gly Lys Ile Ala Ser Cys Leu Asn Asp Asn Ala Asn
                                   410
Gly Tyr Phe Ser Gly His Val Ile Pro Ala Cys Lys/Asn Leu Ser Pro
                               425
Ser Ala Lys Arg Lys Glu Ser Lys Ser His Lys H/s Pro Lys Thr Val
                           440
Met Val Lys Asn Met Gly Ala Tyr Asp Lys Gly/Asn Arg Thr Arg Ile
                       455
                                           460
Leu Leu Gly Ser Arg Pro Pro Asn Cys Thr Agn Lys Cys His Gly Cys
                   470
Ser Pro Cys Lys Ala Lys Leu Val Ile Val/His Arg Ile Met Pro Gln
Glu Tyr Tyr Pro Gln Arg Trp Met Cys Ser Arg His Gly Lys Ile Tyr
                               505
           500
His Pro
<210> 70
<211> 131
<212> PRT
<213> Cynodon dactylon (Bermuda grass)
<400> 70
Met Ser Trp Gln Ala Tyr Val /Asp Asp His Leu Met Cys Glu Ile Glu
                                   10
Gly His His Leu Thr Ser Ala Ile Ile Gly His Asp Gly Thr Val
                               25
Trp Ala Gln Ser Ala Ala ∳he Pro Ala Phe Lys Pro Glu Glu Met Ala
Asn Ile Met Lys Asp Phe/Asp Glu Pro Gly Phe Leu Ala Pro Thr Gly
Leu Phe Leu Gly Pro Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly
90
Thr Gly Gln Ala Leu Val Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro
           100
                               105
Gly Gln Cys Asn Met Val Ile Glu Lys Leu Gly Asp Tyr Leu Ile Glu
       115
                           120
Gln Gly Met
   130
<210> 71
<211> 36
```

```
<212> PRT
<213> Dactylis glomerata(Orchard grass)(Cocksfoot grass)
<400> 71
Glu Ala Pro Val Thr Phe Thr Val Glu Lys Gly Ser Asp Glu Lys Asn
Leu Ala Leu Ser Ile Lys Tyr Asn Lys Glu Gly Asp Ser Met Ala Glu
Val Glu Leu Lys
        35
<210> 72
<211> 154
<212> PRT
<213> Daucus carota (Carrot)
<400> 72
Met Gly Ala Gln Ser His Ser Leu Glu Ile Thr $\forall er$ Ser Val Ser Ala
Glu Lys Ile Phe Ser Gly Ile Val Leu Asp Val Asp Thr Val Ile Pro
Lys Ala Ala Pro Gly Ala Tyr Lys Ser Val 🕅 Val Lys Gly Asp Gly
                            40
Gly Ala Gly Thr Val Arg Ile Ile Thr Leu/Pro Glu Gly Ser Pro Ile
Thr Ser Met Thr Val Arg Thr Asp Ala Va/1 Asn Lys Glu Ala Leu Thr
Tyr Asp Ser Thr Val Ile Asp Gly Asp #le Leu Leu Gly Phe Ile Glu
Ser Ile Glu Thr His Leu Val Val Val/ Pro Thr Ala Asp Gly Gly Ser
Ile Thr Lys Thr Thr Ala Ile Phe His Thr Lys Gly Asp Ala Val Val
                            120
Pro Glu Glu Asn Ile Lys Phe Ala/Asp Ala Gln Asn Thr Ala Leu Phe
                        135
Lys Ala Ile Glu Ala Tyr Leu Ile Ala Asn
                    150
<210> 73
<211> 321
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)
Met Lys Phe Val Leu Ala Ile Ala Ser Leu Leu Val Leu Ser Thr Val
                                     10
Tyr Ala Arg Pro Ala Ser Ile Lys Thr Phe Glu Glu Phe Lys Lys Ala
Phe Asn Lys Asn Tyr Ala Thr Val Glu Glu Glu Glu Val Ala Arg Lys
                             40
Asn Phe Leu Glu Ser/Leu Lys Tyr Val Glu Ala Asn Lys Gly Ala Ile
Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Tyr Leu
Met Ser Ala Glu Ala Phe Glu Gln Leu Lys Thr Gln Phe Asp Leu Asn
```

```
90
                85
Ala Glu Thr Ser Ala Cys Arg Ile Asn Ser Val Asn Val Pro Ser G/Yu
Leu Asp Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln/Gly
                            120
                                                 125
Gly Cys Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Ølu Ser
                        135
Ala Tyr Leu Ala Tyr Arg Asn Thr Ser Leu Asp Leu Ser Gl/u Gln Glu
                    150
                                        155
Leu Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp/Thr Ile Pro
                                    170
                165
Arg Gly Ile Glu Tyr Ile Gln Gln Asn Gly Val Val Glu Glu Arg Ser
Tyr Pro Tyr Val Ala Arg Glu Gln Arg Cys Arg Arg' Pro Asn Ser Gln
                            200
His Tyr Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asp Val Lys
                        215
    210
Gln Ile Arg Glu Ala Leu Thr Gln Thr His Thr/Ala Ile Ala Val Ile
                    230
                                        23/5
Ile Gly Ile Lys Asp Leu Arg Ala Phe Gln His Tyr Asp Gly Arg Thr
                                    250
                245
Ile Ile Gln His Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn
            260
                                265
Ile Val Gly Tyr Gly Ser Thr Gln Gly Asp Tyr Trp Ile Val Arg
                                                 285
                            280
Asn Ser Trp Asp Thr Thr Trp Gly Asp Ser Gly Tyr Gly Tyr Phe Gln
                        295
Ala Gly Asn Asn Leu Met Met Ile Gau Gln Tyr Pro Tyr Val Val Ile
                    310
Met
```

<210> 74 <211> 146 <212> PRT

<213> Dermatophagoides farinae (House-dust mite)

 <400> 74

 Met Ile Ser Lys Ile Len Cys Leu Ser Leu Leu Val Ala Ala Val Val 1

 Ala Asp Gln Val Asp Val Lys Asp Cys Ala Asn Asn Glu Ile Lys Lys 20

 Val Met Val Asp Gly Cys His Gly Ser Asp Pro Cys Ile Ile His Arg 35

 Gly Lys Pro Phe Thr Leu Glu Ala Leu Phe Asp Ala Asn Gln Asn Thr 50

 Lys Thr Ala Lys Ile Glu Ile Lys Ala Ser Leu Asp Gly Leu Glu Ile 65

 Asp Val Pro Gly Ile Asp Thr Asn Ala Cys His Phe Met Lys Cys Pro 85

 Leu Val Lys Gly Gln Gln Tyr Asp Ile Lys Tyr Thr Trp Asn Val Pro 100

 Lys Ile Ala Pro Lys Ser Glu Asn Val Val Val Thr Val Lys Leu Ile 115

 Gly Asp Asn Gly Val Leu Ala Cys Ala Ile Ala Thr His Gly Lys Ile 130

```
Arg Asp
145
<210> 75
<211> 259
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)
<400> 75
Met Met Ile Leu Thr Ile Val Val Leu Leu Ala Ala Asn Ile Leu Ala
                                    10
Thr Pro Ile Leu Pro Ser Ser Pro Asn Ala Thr Ile Val Gly Gly Val
Lys Ala Gln Ala Gly Asp Cys Pro Tyr Gln Ile Ser Leu Gln Ser Ser
Ser His Phe Cys Gly Gly Ser Ile Leu Asp Glu/Tyr Trp Ile Leu Thr
                        55
Ala Ala His Cys Val Asn Gly Gln Ser Ala Lys Lys Leu Ser Ile Arg
Tyr Asn Thr Leu Lys His Ala Ser Gly Gly Glu Lys Ile Gln Val Ala
                                    90
Glu Ile Tyr Gln His Glu Asn Tyr Asp Ser Met Thr Ile Asp Asn Asp
            100
                                105
Val Ala Leu Ile Lys Leu Lys Thr Pro Met Thr Leu Asp Gln Thr Asn
                                                 125
Ala Lys Pro Val Pro Leu Pro Ala Gln/Gly Ser Asp Val Lys Val Gly
                        135
Asp Lys Ile Arg Val Ser Gly Trp G/zy Tyr Leu Gln Glu Gly Ser Tyr
                    150
Ser Leu Pro Ser Glu Leu Gln Arg Nal Asp Ile Asp Val Val Ser Arg
                                    170
Glu Gln Cys Asp Gln Leu Tyr Sef Lys Ala Gly Ala Asp Val Ser Glu
                                185
Asn Met Ile Cys Gly Gly Asp Val Ala Asn Gly Gly Val Asp Ser Cys
                             200
Gln Gly Asp Ser Gly Gly Pro/Val Val Asp Val Ala Thr Lys Gln Ile
                                             220
                        215
Val Gly Ile Val Ser Trp Gl  Tyr Gly Cys Ala Arg Lys Gly Tyr Pro
                    230
                                        235
Gly Val Tyr Thr Arg Val Gly Asn Phe Val Asp Trp Ile Glu Ser Lys
                245
                                     250
Arg Ser Gln
<210> 76
<211> 20
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)
<400> 76
Ala Val Gly Gly Glh Asp Ala Asp Leu Ala Glu Ala Pro Phe Gln Ile
Ser Leu Leu Lys
            20
```

```
<210> 77
<211> 213
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)
Met Met Lys Phe Leu Leu Ile Ala Ala Val Ala Phe Val Ala Val Ser
Ala Asp Pro Ile His Tyr Asp Lys Ile Thr Glu Glu Ile Asn Lys Ala
                                 25
Ile Asp Asp Ala Ile Ala Ala Ile Glu Gln Ser Glu/Thr Ile Asp Pro
Met Lys Val Pro Asp His Ala Asp Lys Phe Glu Arg His Val Gly Ile
Val Asp Phe Lys Gly Glu Leu Ala Met Arg Asn/Ile Glu Ala Arg Gly
Leu Lys Gln Met Lys Arq Gln Gly Asp Ala A∮n Val Lys Gly Glu Glu
Gly Ile Val Lys Ala His Leu Leu Ile Gly/Val His Asp Asp Ile Val
                                 105
Ser Met Glu Tyr Asp Leu Ala Tyr Lys Lefu Gly Asp Leu His Pro Thr
                            120
                                                 125
Thr His Val Ile Ser Asp Ile Gln Asp Þ he Val Val Ala Leu Ser Leu
                        135
                                             140
Glu Ile Ser Asp Glu Gly Asn Ile Th# Met Thr Ser Phe Glu Val Arg
                    150
Gln Phe Ala Asn Val Val Asn His 1/1e Gly Gly Leu Ser Ile Leu Asp
                165
                                     170
Pro Ile Phe Gly Val Leu Ser Asp/ Val Leu Thr Ala Ile Phe Gln Asp
                                185
Thr Val Arg Lys Glu Met Thr Lys Val Leu Ala Pro Ala Phe Lys Arg
        195
Glu Leu Glu Lys Asn
    210
<210> 78
<211> 30
<212> PRT
<213> Dermatophagoides/microceras (House-dust mite)
<400> 78
Thr Gln Ala Cys Arg #Ie Asn Ser Gly Asn Val Pro Ser Glu Leu Asp
                                     10
Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly
            20
<210> 79
<211> 320
<212> PRT
<213> Dermatoph/agoides pteronyssinus (House-dust mite)
Met Lys Ile Val Leu Ala Ile Ala Ser Leu Leu Ala Leu Ser Ala Val
                                     10
```

```
Tyr Ala Arg Pro Ser Ser Ile Lys Thr Phe Glu Glu Tyr Lys Lys Ala,
Phe Asn Lys Ser Tyr Ala Thr Phe Glu Asp Glu Glu Ala Ala Arg Lys
Asn Phe Leu Glu Ser Val Lys Tyr Val Gln Ser Asn Gly Gly Ala Ile
Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg/Phe Leu
Met Ser Ala Glu Ala Phe Glu His Leu Lys Thr Gln Phe App Leu Asn
                85
Ala Glu Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile
                                105
Asp Leu Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly
                            120
Cys Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala/Thr Glu Ser Ala
                        135
Tyr Leu Ala Tyr Arg Asn Gln Ser Leu Asp Leu A‡a Glu Gln Glu Leu
                                        155
                    150
Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg
                                    170
                165
Gly Ile Glu Tyr Ile Gln His Asn Gly Val Va/1 Gln Glu Ser Tyr Tyr
                                185
Arg Tyr Val Ala Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg
                            200
                                                205
Phe Gly Ile Ser Asn Tyr Cys Gln Ile Ty# Pro Pro Asn Val Asn Lys
                        215
Ile Arg Glu Ala Leu Ala Gln Thr His Sér Ala Ile Ala Val Ile Ile
                    230
Gly Ile Lys Asp Leu Asp Ala Phe Arg/His Tyr Asp Gly Arg Thr Ile
                                    250
                245
Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile
Val Gly Tyr Ser Asn Ala Gln Gly ∜al Asp Tyr Trp Ile Val Arg Asn
                            280,
Ser Trp Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala
                        295
                                             300
Asn Ile Asp Leu Met Met Ile G/u Glu Tyr Pro Tyr Val Val Ile Leu
                    310
                                        315
```

<210> 80 <211> 146 <212> PRT

<213> Dermatophagoides pteronyssinus (House-dust mite)

```
85
                                      90
Leu Val Lys Gly Gln Gln Tyr Asp Ile Lys Tyr Thr Trp Asp Val Pro
                                  105
            100
Lys Ile Ala Pro Lys Ser Glu Asn Val Val Val Thr Val Lys Val Met
                             120
Gly Asp Asp Gly Val Leu Ala Cys Ala Ile Ala Thr His Ala Lys Ile
                         135
Arg Asp
145
<210> 81
<211> 261
<212> PRT
<213> Dermatophagoides pteronyssinus (Hoyse-dust mite)
<400> 81
Met Ile Ile Tyr Asn Ile Leu Ile Val Leµ Leu Leu Ala Ile Asn Thr
Leu Ala Asn Pro Ile Leu Pro Ala Ser Fro Asn Ala Thr Ile Val Gly
                                  25
Gly Glu Lys Ala Leu Ala Gly Glu Cys/Pro Tyr Gln Ile Ser Leu Gln
                             40
Ser Ser Ser His Phe Cys Gly Gly Th/r Ile Leu Asp Glu Tyr Trp Ile
                                              60
                         55
Leu Thr Ala Ala His Cys Val Ala 📢 ly Gln Thr Ala Ser Lys Leu Ser
                     70
Ile Arg Tyr Asn Ser Leu Lys His/Ser Leu Gly Gly Glu Lys Ile Ser
                 85
Val Ala Lys Ile Phe Ala His Glu Lys Tyr Asp Ser Tyr Gln Ile Asp
            100
                                 105
Asn Asp Ile Ala Leu Ile Lys Zeu Lys Ser Pro Met Lys Leu Asn Gln
                             /120
Lys Asn Ala Lys Ala Val Gly/Leu Pro Ala Lys Gly Ser Asp Val Lys
Val Gly Asp Gln Val Arg Val Ser Gly Trp Gly Tyr Leu Glu Glu Gly
                     150
                                          155
Ser Tyr Ser Leu Pro Ser $\oldsymbol{\psi}\begin{aligned} \text{leu Arg Arg Val Asp Ile Ala Val Val} \end{aligned}
                                      170
Ser Arg Lys Glu Cys Asn/Glu Leu Tyr Ser Lys Ala Asn Ala Glu Val
                                  185
Thr Asp Asn Met Ile Cys Gly Gly Asp Val Ala Asn Gly Gly Lys Asp
                              200
Ser Cys Gln Gly Asp Ser Gly Gly Pro Val Val Asp Val Lys Asn Asn
                         215
                                              220
Gln Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Arg Lys Gly
                    230
                                          235
Tyr Pro Gly Val T∲r Thr Arg Val Gly Asn Phe Ile Asp Trp Ile Glu
                                      250
Ser Lys Arg Ser $ln
            260
<210> 82
<211> 19
<212> PRT
<213> Dermat\phiphagoides pteronyssinus (House-dust mite)
```

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<220>
<221> UNSURE
<222> 3, 16
<223> Xaa = any amino acid
<400> 82
Lys Tyr Xaa Asn Pro His Phe Ile Gly Xaa Arg Ser Val Ile Thr Xaa
                , 5
                                     10
Leu Met Glu
<210> 83
<211> 132
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)
<400> 83
Met Lys Phe Ile Ile Ala Phe Phe Val Ala Thr Leu Ala Val Met Thr
Val Ser Gly Glu Asp Lys Lys His Asp Tyr Gln Asn Glu Phe Asp Phe
Leu Leu Met Glu Arg Ile His Glu Çİn Ile Lys Lys Gly Glu Leu Ala
                             40
                                                 4.5
Leu Phe Tyr Leu Gln Glu Gln Ile/Asn His Phe Glu Glu Lys Pro Thr
Lys Glu Met Lys Asp Lys Ile Va/1 Ala Glu Met Asp Thr Ile Ile Ala
Met Ile Asp Gly Val Arg Gly ∜al Leu Asp Arg Leu Met Gln Arg Lys
                                     90
                85
Asp Leu Asp Ile Phe Glu Gln/ Tyr Asn Leu Glu Met Ala Lys Lys Ser
                                105
Gly Asp Ile Leu Glu Arg. Asp Leu Lys Lys Glu Glu Ala Arg Val Lys
        115
                             120
Lys Ile Glu Val
    130
<210> 84
<211> 20
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)
<220>
<221> UNSURE
<222> 4
<223> Xaa = any/amino acid
<400> 84
Ala Ile Gly Xaa Gln Pro Ala Ala Glu Ala Glu Ala Pro Phe Gln Ile
                                                          15
Ser Leu Met Lys
<210> 85
```

```
<211> 215
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)
Met Met Lys Leu Leu Ile Ala Ala Ala Phe Val/Ala Val Ser
Ala Asp Pro Ile His Tyr Asp Lys Ile Thr Glu Glu Lie Asn Lys Ala
Val Asp Glu Ala Val Ala Ala Ile Glu Lys Ser Glu Thr Phe Asp Pro
                                                45
                            40
Met Lys Val Pro Asp His Ser Asp Lys Phe Glu Arg His Ile Gly Ile
Ile Asp Leu Lys Gly Glu Leu Asp Met Arg Asn Ile Gln Val Arg Gly
Leu Lys Gln Met Lys Arg Val Gly Asp Ala Asn Val Lys Ser Glu Asp
Gly Val Val Lys Ala His Leu Leu Val Gly/Val His Asp Asp Val Val
Ser Met Glu Tyr Asp Leu Ala Tyr Lys Leu Gly Asp Leu His Pro Asn
                            120
Thr His Val Ile Ser Asp Ile Gln Asp 🌶 he Val Val Glu Leu Ser Leu
                        135
                                             140
Glu Val Ser Glu Glu Gly Asn Met Thr Leu Thr Ser Phe Glu Val Arg
                    150
                                         155
Gln Phe Ala Asn Val Val Asn His I/1e Gly Gly Leu Ser Ile Leu Asp
                                    170
                165
Pro Ile Phe Ala Val Leu Ser Asp/Val Leu Thr Ala Ile Phe Gln Asp
Thr Val Arg Ala Glu Met Thr L\squares Val Leu Ala Pro Ala Phe Lys Lys
Glu Leu Glu Arg Asn Asn Gln
<210> 86
<211> 203
<212> PRT
<213> Dolichovespula arenaria (Yellow hornet)
<400> 86
Asn Asn Tyr Cys Lys fle Cys Pro Lys Gly Thr His Thr Leu Cys Lys
Tyr Gly Thr Ser Met Lys Pro Asn Cys Gly Gly Lys Ile Val Lys Ser
Tyr Gly Val Thr A≸n Asp Glu Lys Asn Glu Ile Val Lys Arg His Asn
Glu Phe Arg Gln Lys Val Ala Gln Gly Leu Glu Thr Arg Gly Asn Pro
Gly Pro Gln Pr\phi Pro Ala Lys Asn Met Asn Leu Leu Val Trp Asn Asp
                                         75
                    70
Glu Leu Ala Lys Ile Ala Gln Thr Trp Ala Asn Gln Cys Asn Phe Gly
                                    90
His Asp Gln \not Eys Arg Asn Thr Ala Lys Tyr Pro Val Gly Gln Asn Val
                                105
Ala Ile Ala/Ser Thr Thr Gly Asn Ser Tyr Gln Thr Met Ser Tyr Leu
        119
```

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      Ile Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro His Lys Asp 130
      135
      140

      Leu Met His Asn Asn Phe Ser Lys Val Gly His Tyr Thr Gln Met Val 150
      155
      160

      Trp Gly Lys Thr Lys Glu Ile Gly Cys Gly Ser Val Lys Tyr Ile Glu 165
      170
      175

      Asn Lys Trp His Thr His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly 180
      185
      190

      Asn Tyr Met Asn Gln Pro Val Tyr Glu Arg Lys 195
      200
      195
```

```
<210> 87
<211> 317
<212> PRT
<213> Dolichovespula maculata (White-face/hornet)
Arg Leu Ile Met Phe Val Gly Asp Pro Ser/Ser Ser Asn Glu Leu Asp
Arg Phe Ser Val Cys Pro Phe Ser Asn Asp Thr Val Lys Met Ile Phe
            20
                                 25
Leu Thr Arg Glu Asn Arg Lys His Asp/Phe Tyr Thr Leu Asp Thr Met
                            40
Asn Arg His Asn Glu Phe Lys Lys Ser Ile Ile Lys Arg Pro Val Val
                        55
Phe Ile Thr His Gly Phe Thr Ser \sharper Ala Thr Glu Lys Asn Phe Val
Ala Met Ser Glu Ala Leu Met Hi$ Thr Gly Asp Phe Leu Ile Ile Met
Val Asp Trp Arg Met Ala Ala 🕬 Thr Asp Glu Tyr Pro Gly Leu Lys
                                105
                                                     110
            100
Tyr Met Phe Tyr Lys Ala Ala/Val Gly Asn Thr Arg Leu Val Gly Asn
                            120
Phe Ile Ala Met Ile Ala Ly/s Lys Leu Val Glu Gln Tyr Lys Val Pro
                    150
                                         155
```

```
<210> 88
<211> 303
<212> PRT
<213> Dolichovespula maculata (White-face hornet)
<400> 88
Gly Ile Leu Pro Glu Cys Lys Leu Val Pro Glu Glu 1/1e Ser Phe Val
                                    10
Leu Ser Thr Arg Glu Asn Arg Asp Gly Val Tyr Ley Thr Leu Gln Lys
Leu Lys Asn Gly Lys Met Phe Lys Asn Ser Asp ≠eu Ser Ser Lys Lys
Val Pro Phe Leu Ile His Gly Phe Ile Ser Ser Ala Thr Asn Lys Asn
                        55
Tyr Ala Asp Met Thr Arq Ala Leu Leu Asp Lys Asp Asp Ile Met Val
Ile Ser Ile Asp Trp Arg Asp Gly Ala Cys/Ser Asn Glu Phe Ala Leu
Leu Lys Phe Ile Gly Tyr Pro Lys Ala Val Glu Asn Thr Arg Ala Val
                                105
            100
Gly Lys Tyr Ile Ala Asp Phe Ser Lys/Ile Leu Ile Gln Lys Tyr Lys
                            120
                                                 125
Val Leu Leu Glu Asn Ile Arg Leu Il∲ Gly His Ser Leu Gly Ala Gln
                        135
Ile Ala Gly Phe Ala Gly Lys Glu #he Gln Arg Phe Lys Leu Gly Lys
                    150
                                         155
Tyr Pro Glu Ile Ile Gly Leu Asp/Pro Ala Gly Pro Ser Phe Lys Lys
                                                         175
              . 165
                                    170
Lys Asp Cys Pro Glu Arg Ile C/s Glu Thr Asp Ala His Tyr Val Gln
                                185
            180
Ile Leu His Thr Ser Ser Asn Leu Gly Thr Glu Arg Thr Leu Gly Thr
                            200
                                                 205
Val Asp Phe Tyr Ile Asn Asp Gly Ser Asn Gln Pro Gly Cys Thr Tyr
                        21/5
                                             220
Ile Ile Gly Glu Thr Cys Ser His Thr Arg Ala Val Lys Tyr Leu Thr
                    230
                                         235
Glu Cys Ile Arg Arg Glu Cys Cys Leu Ile Gly Val Pro Gln Ser Lys
                                    250
Asn Pro Gln Pro Val Ser Lys Cys Thr Arg Asn Glu Cys Val Cys Val
            260
Gly Leu Asn Ala Lys G∤u Tyr Pro Lys Lys Gly Ser Phe Tyr Val Pro
                            280
Val Glu Ala Lys Ala ∳ro Phe Cys Asn Asn Asn Gly Lys Ile Ile
                        295
    290
<210> 89
<211> 331
<212> PRT
<213> Dolichovespµla maculata (White-face hornet)
Ser Glu Arg Pro Lys Arg Val Phe Asn Ile Tyr Trp Asn Val Pro Thr
```

```
Phe Met Cys His Gln Tyr Gly Leu Tyr Phe Asp Glu Val Thr Asn Phe
Asn Ile Lys His Asn Ser Lys Asp Asp Phe Gln Gly Asp Lys I le Ser
Ile Phe Tyr Asp Pro Gly Glu Phe Pro Ala Leu Leu Pro Leu Lys Glu
Gly Asn Tyr Lys Ile Arg Asn Gly Gly Val Pro Gln Glu Øly Asn Ile
                                        75
Thr Ile His Leu Gln Arg Phe Ile Glu Asn Leu Asp Lys Thr Tyr Pro
                                    90
Asn Arg Asn Phe Asn Gly Ile Gly Val Ile Asp Phe/Glu Arg Trp Arg
                                105
                                                    110
Pro Ile Phe Arg Gln Asn Trp Gly Asn Met Met I/e His Lys Lys Phe
                            120
Ser Ile Asp Leu Val Arg Asn Glu His Pro Phe/Trp Asp Lys Lys Met
                        135
Ile Glu Leu Glu Ala Ser Lys Arg Phe Glu Lys Tyr Ala Arg Leu Phe
                    150
Met Glu Glu Thr Leu Lys Leu Ala Lys Lys/Thr Arg Lys Gln Ala Asp
                165
Trp Gly Tyr Tyr Gly Tyr Pro Tyr Cys Phe Asn Met Ser Pro Asn Asn
                                185
Leu Val Pro Asp Cys Asp Ala Thr Ala Met Leu Glu Asn Asp Lys Met
                            200
                                                205
Ser Trp Leu Phe Asn Asn Gln Asn Va/ Leu Leu Pro Ser Val Tyr Ile
                        215
                                            220
Arg His Glu Leu Thr Pro Asp Gln Arg Val Gly Leu Val Gln Gly Arg
                                        235
                    230
Val Lys Glu Ala Val Arg Ile Ser Asn Asn Leu Lys His Ser Pro Lys
Val Leu Ser Tyr Trp Trp Tyr Val Tyr Gln Asp Asp Thr Asn Thr Phe
                                265
Leu Thr Glu Thr Asp Val Lys/Lys Thr Phe Gln Glu Ile Ala Ile Asn
                            280
Gly Gly Asp Gly Ile Ile Ile Trp Gly Ser Ser Asp Val Asn Ser
                                            300
Leu Ser Lys Cys Lys Arg Leu Arg Glu Tyr Leu Leu Thr Val Leu Gly
                    310
                                        315
Pro Ile Thr Val Asn Va∤ Thr Glu Thr Val Asn
                325
<210> 90
<211> 227
<212> PRT
<213> Dolichovesphla maculata (White-face hornet)
<400> 90
Met Glu Ile Gly/Gly Leu Val Tyr Leu Ile Leu Ile Ile Thr Ile Ile
Asn Leu Ser Phe Gly Glu Thr Asn Asn Tyr Cys Lys Ile Lys Cys Arg
                                25
Lys Gly Ile Mis Thr Leu Cys Lys Phe Gly Thr Ser Met Lys Pro Asn
Cys Gly Arg/Asn Val Val Lys Ala Tyr Gly Leu Thr Asn Asp Glu Lys
Asn Glu Ile Leu Lys Arg His Asn Asp Phe Arg Gln Asn Val Ala Lys
```

```
70
Gly Leu Glu Thr Arg Gly Lys Pro Gly Pro Gln Pro Pro Ala Lys Asn
Met Asn Val Leu Val Trp Asn Asp Glu Leu Ala Lys Ile Ala Gl/ Thr
                                105
Trp Ala Asn Gln Cys Asp Phe Asn His Asp Asp Cys Arg Asn/Thr Ala
                            120
Lys Tyr Gln Val Gly Gln Asn Ile Ala Ile Ser Ser Thr Thr Ala Thr
                        135
                                             140
Gln Phe Asp Arg Pro Ser Lys Leu Ile Lys Gln Trp Glu/Asp Glu Val
                    150
                                         155
Thr Glu Phe Asn Tyr Lys Val Gly Leu Gln Asn Ser A≸n Phe Arg Lys
                                    170
Val Gly His Tyr Thr Gln Met Val Trp Gly Lys Thr/Lys Glu Ile Gly
                                185
            180
Cys Gly Ser Ile Lys Tyr Ile Glu Asp Asn Trp Tyr Thr His Tyr Leu
Val Cys Asn Tyr Gly Pro Gly Gly Asn Asp Phe Asn Gln Pro Ile Tyr
Glu Arg Lys
225
<210> 91
<211> 215
<212> PRT
<213> Dolichovespula maculata (White-#ace hornet)
Pro Ile Ile Asn Leu Ser Phe Gly Glu/Ala Asn Asn Tyr Cys Lys Ile
Lys Cys Ser Arg Gly Ile His Thr Le Cys Lys Phe Gly Thr Ser Met
Lys Pro Asn Cys Gly Ser Lys Leu Yal Lys Val His Gly Val Ser Asn
Asp Glu Lys Asn Glu Ile Val Asn/Arg His Asn Gln Phe Arg Gln Lys
Val Ala Lys Gly Leu Glu Thr Apg Gly Asn Pro Gly Pro Gln Pro Pro
                    70
                                         75
Ala Lys Asn Met Asn Val Leu #al Trp Asn Asp Glu Leu Ala Lys Ile
Ala Gln Thr Trp Ala Asn Gln/ Cys Ser Phe Gly His Asp Gln Cys Arg
Asn Thr Glu Lys Tyr Gln Val Gly Gln Asn Val Ala Ile Ala Ser Thr
                            120
Thr Gly Asn Ser Tyr Ala #thr Met Ser Lys Leu Ile Glu Met Trp Glu
                        135
Asn Glu Val Lys Asp Phe Asn Pro Lys Lys Gly Thr Met Gly Asp Asn
                                         155
Asn Phe Ser Lys Val G/y His Tyr Thr Gln Met Val Trp Gly Lys Thr
                165
                                     170
Lys Glu Ile Gly Cys \phily Ser Val Lys Tyr Ile Glu Asn Asn Trp His
                                185
                                                     190
Thr His Tyr Leu Val/Cys Asn Tyr Gly Pro Ala Gly Asn Tyr Met Asp
                            200
Gln Pro Ile Tyr Gl∦ Arg Lys
    210
                        215
```

```
<210> 92
<211> 187
<212> PRT
<213> Equus caballus (Horse)
<400> 92
Met Lys Leu Leu Leu Cys Leu Gly Leu Ile Ley Val Cys Ala Gln
Gln Glu Glu Asn Ser Asp Val Ala Ile Arg Asn Ahe Asp Ile Ser Lys
                                25
Ile Ser Gly Glu Trp Tyr Ser Ile Phe Leu Ala Ser Asp Val Lys Glu
Lys Ile Glu Glu Asn Gly Ser Met Arg Val/Phe Val Asp Val Ile Arg
Ala Leu Asp Asn Ser Ser Leu Tyr Ala G/u Tyr Gln Thr Lys Val Asn
                    70
Gly Glu Cys Thr Glu Phe Pro Met Val/Phe Asp Lys Thr Glu Glu Asp
Gly Val Tyr Ser Leu Asn Tyr Asp Gly Tyr Asn Val Phe Arg Ile Ser
Glu Phe Glu Asn Asp Glu His Ile/Ile Leu Tyr Leu Val Asn Phe Asp
                            120
Lys Asp Arg Pro Phe Gln Leu Phe Glu Phe Tyr Ala Arg Glu Pro Asp
                        135
                                             140
Val Ser Pro Glu Ile Lys Glu 🕏 lu Phe Val Lys Ile Val Gln Lys Arg
                    150
                                         155
Gly Ile Val Lys Glu Asn Il / Ile Asp Leu Thr Lys Ile Asp Arg Cys
                                    170
Phe Gln Leu Arg Gly Asn 🖒 Val Ala Gln Ala
            180
<210> 93
<211> 29
<212> PRT
<213> Equus caballus (Horse)
<220>
<221> UNSURE
<222> 3, 28
<223> Xaa = any/amino acid
<400> 93
Ser Gln Xaa Pto Gln Ser Glu Thr Asp Tyr Ser Gln Leu Ser Gly Glu
                                    10
Trp Asn Thr /Ile Tyr Gly Ala Ala Ser Asn Ile Xaa Lys
<210> 94
<211> 19
<212> PR/T
<213> Equus caballus (Horse)
<220>
```

```
<221> UNSURE
<222> 1
<223> Xaa = any amino acid
<400> 94
Xaa Gln Asp Pro Gln Ser Glu Thr Asp Tyr Ser Gln Leu S∲r Gly Glu
Trp Asn Thr
<210> 95
<211> 211
<212> PRT
<213> Euroglyphus maynei (House-dust mite)
<400> 95
Thr Tyr Ala Cys Ser Ile Asn Ser Val Ser Leu Pro Ser Glu Leu Asp
                                    10
Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys
                                25
Gly Ser Cys Trp Ala Phe Ser Gly Val A/a Ser Thr Glu Ser Ala Tyr
                            40
Leu Ala Tyr Arg Asn Met Ser Leu Asp/Leu Ala Glu Gln Glu Leu Val
                        55
                                             60
Asp Cys Ala Ser Gln Asn Gly Cys Hi & Gly Asp Thr Ile Pro Arg Gly
                    70
Ile Glu Tyr Ile Gln Gln Asn Gly Yal Val Gln Glu His Tyr Tyr Pro
Tyr Val Ala Arg Glu Gln Ser Cys/His Arg Pro Asn Ala Gln Arg Tyr
                                105
            100
Gly Leu Lys Asn Tyr Cys Gln Ile Ser Pro Pro Asp Ser Asn Lys Ile
Arg Gln Ala Leu Thr Gln Thr His Thr Ala Val Ala Val Ile Ile Gly
                        135
                                             140
Ile Lys Asp Leu Asn Ala Phe/Arg His Tyr Asp Gly Arg Thr Ile Met
                    150
                                        155
Gln His Asp Asn Gly Tyr Gl/n Pro Asn Tyr His Ala Val Asn Ile Val
                165
                                    170
Gly Tyr Gly Asn Thr Gln 📢 Val Asp Tyr Trp Ile Val Arg Asn Ser
            180
                                185
Trp Asp Thr Thr Trp Gly/Asp Asn Gly Tyr Gly Tyr Phe Ala Ala Asn
        195
                            200
Ile Asn Leu
    210
<210> 96
<211> 92
<212> PRT
<213> Felis silve/stris catus (Cat)
Met Lys Gly Ala/Cys Val Leu Val Leu Leu Trp Ala Ala Leu Leu Leu
Ile Ser Gly Glly Asn Cys Glu Ile Cys Pro Ala Val Lys Arg Asp Val
```

```
Asp Leu Phe Leu Thr Gly Thr Pro Asp Glu Tyr Val Glu Gln Val/Ala
 Gln Tyr Lys Ala Leu Pro Val Val Leu Glu Asn Ala Arg İle Leu Lys
 Asn Cys Val Asp Ala Lys Met Thr Glu Glu Asp Lys Glu Asp Ala Leu
 Ser Val Leu Asp Lys Ile Tyr Thr Ser Pro Leu Cys
 <210> 97
 <211> 88
 <212> PRT
 <213> Felis silvestris catus (Cat)
 Met Leu Asp Ala Ala Leu Pro Pro Cys Pro Thr Val Ala Ala Thr Ala
 Asp Cys Glu Ile Cys Pro Ala Val Lys Arg/Asp Val Asp Leu Phe Leu
 Thr Gly Thr Pro Asp Glu Tyr Val Glu G/n Val Ala Gln Tyr Lys Ala
                              40
 Leu Pro Val Val Leu Glu Asn Ala Arg/Ile Leu Lys Asn Cys Val Asp
                         55
 Ala Lys Met Thr Glu Glu Asp Lys Gl¼ Asn Ala Leu Ser Val Leu Asp
 Lys Ile Tyr Thr Ser Pro Leu Cys
 <210> 98
 <211> 109
 <212> PRT
 <213> Felis silvestris cat#s (Cat)
. <400> 98
 Met Arg Gly Ala Leu Leu Val Leu Ala Leu Leu Val Thr Gln Ala Leu
                                      10
 Gly Val Lys Met Ala Gly Thr Cys Pro Ile Phe Tyr Asp Val Phe Phe
 Ala Val Ala Asn Gly Afn Glu Leu Leu Leu Asp Leu Ser Leu Thr Lys
 Val Asn Ala Thr Glu Pro Glu Arg Thr Ala Met Lys Lys Ile Gln Asp
 Cys Tyr Val Glu As# Gly Leu Ile Ser Arg Val Leu Asp Gly Leu Val
                                          75
 Met Thr Thr Ile S∳r Ser Ser Lys Asp Cys Met Gly Glu Ala Val Gln
 Asn Thr Val Glu Asp Leu Lys Leu Asn Thr Leu Gly Arg
             100
 <210> 99
 <211> 113
 <212> PRT
 <213> Gadus callarias (Baltic cod)
```

<211> 385

```
<400> 99
Ala Phe Lys Gly Ile Leu Ser Asn Ala Asp Ile Lys Ala Ala Gly Ala
Ala Cys Phe Lys Glu Gly Ser Phe Asp Glu Asp Gly Phe Tyr/Ala Lys
Val Gly Leu Asp Ala Phe Ser Ala Asp Glu Leu Lys Lys Léu Phe Lys
Ile Ala Asp Glu Asp Lys Glu Gly Phe Ile Glu Glu Asp Glu Leu Lys
Leu Phe Leu Ile Ala Phe Ala Ala Asp Leu Arg Ala Keu Thr Asp Ala
Glu Thr Lys Ala Phe Leu Lys Ala Gly Asp Ser Asp Gly Asp Gly Lys
                                    90
Ile Gly Val Asp Glu Phe Gly Ala Leu Val Asp Lys Trp Gly Ala Lys
                                105
            100
Gly
<210> 100
<211> 210
<212> PRT
<213> Gallus gallus (Chicken)
<400> 100
Met Ala Met Ala Gly Val Phe Val Leu Phe Ser Phe Val Leu Cys Gly
Phe Leu Pro Asp Ala Ala Phe Gly Ála Glu Val Asp Cys Ser Arg Phe
Pro Asn Ala Thr Asp Lys Glu Gly Lys Asp Val Leu Val Cys Asn Lys
Asp Leu Arg Pro Ile Cys Gly /Thr Asp Gly Val Thr Tyr Thr Asn Asp
Cys Leu Leu Cys Ala Tyr Ser Ile Glu Phe Gly Thr Asn Ile Ser Lys
Glu His Asp Gly Glu Cys Lys Glu Thr Val Pro Met Asn Cys Ser Ser
                                    90
                85
Tyr Ala Asn Thr Thr Sef Glu Asp Gly Lys Val Met Val Leu Cys Asn
                                105
Arg Ala Phe Asn Pro Val Cys Gly Thr Asp Gly Val Thr Tyr Asp Asn
                            120
Glu Cys Leu Leu Cys/Ala His Lys Val Glu Gln Gly Ala Ser Val Asp
Lys Arg His Asp Gly Gly Cys Arg Lys Glu Leu Ala Ala Val Ser Val
                                        155
                    150
Asp Cys Ser Glu Tr Pro Lys Pro Asp Cys Thr Ala Glu Asp Arg Pro
                                    170
Leu Cys Gly Ser Asp Asn Lys Thr Tyr Gly Asn Lys Cys Asn Phe Cys
            180
                                185
Asn Ala Val Val/Glu Ser Asn Gly Thr Leu Thr Leu Ser His Phe Gly
                            200
        195
Lys Cys
    210
<210> 101
```

<212> PRT

```
<213> Gallus gallus (Chicken)
<400> 101
Gly Ser Ile Gly Ala Ala Ser Met Glu Phe Cys Phe Asp Val Phe Lys
                                    10
Glu Leu Lys Val His His Ala Asn Glu Asn Ile Phe Tyr Cys/Pro Ile
                                25
Ala Ile Met Ser Ala Leu Ala Met Val Tyr Leu Gly Ala Lys Asp Ser
Thr Arg Thr Gln Ile Asn Lys Val Val Arg Phe Asp Lys Leu Pro Gly
                        55
Phe Gly Asp Ser Ile Glu Ala Gln Cys Gly Thr Ser */al Asn Val His
                    70
Ser Ser Leu Arg Asp Ile Leu Asn Gln Ile Thr Lys Pro Asn Asp Val
Tyr Ser Phe Ser Leu Ala Ser Arg Leu Tyr Ala/Glu Glu Arg Tyr Pro
                                105
Ile Leu Pro Glu Tyr Leu Gln Cys Val Lys G/u Leu Tyr Arg Gly Gly
                            120
Leu Glu Pro Ile Asn Phe Gln Thr Ala Ala/Asp Gln Ala Arg Glu Leu
                                            140
                        135
Ile Asn Ser Trp Val Glu Ser Gln Thr Asn Gly Ile Ile Arg Asn Vál
                                        155
                    150
Leu Gln Pro Ser Ser Val Asp Ser Gln/Thr Ala Met Val Leu Val Asn
                165
                                    170
Ala Ile Val Phe Lys Gly Leu Trp G/u Lys Ala Phe Lys Asp Glu Asp
           180
Thr Gln Ala Met Pro Phe Arg Val/Thr Glu Gln Glu Ser Lys Pro Val
Gln Met Met Tyr Gln Ile Gly L∉u Phe Arg Val Ala Ser Met Ala Ser
                        215
                                            220
Glu Lys Met Lys Ile Leu Glu Leu Pro Phe Ala Ser Gly Thr Met Ser
                                        235
                    230
Met Leu Val Leu Leu Pro Asp Glu Val Ser Gly Leu Glu Gln Leu Glu
                                    250
                245
Ser Ile Ile Asn Phe Glu Lys Leu Thr Glu Trp Thr Ser Ser Asn Val
                                265
           260
Met Glu Glu Arq Lys Ile/Lys Val Tyr Leu Pro Arg Met Lys Met Glu
                            280
Glu Lys Tyr Asn Leu Thr Ser Val Leu Met Ala Met Gly Ile Thr Asp
                        295
Val Phe Ser Ser ≸la Asn Leu Ser Gly Ile Ser Ser Ala Glu Ser
                    310
Leu Lys Ile Ser Gln/Ala Val His Ala Ala His Ala Glu Ile Asn Glu
                                    330
Ala Gly Arg Glu Va/1 Val Gly Ser Ala Glu Ala Gly Val Asp Ala Ala
                                345
            340
Ser Val Ser Glu 🕻 lu Phe Arg Ala Asp His Pro Phe Leu Phe Cys Ile
                            360
Lys His Ile Ala/Thr Asn Ala Val Leu Phe Phe Gly Arg Cys Val Ser
    370
                        375
Pro
385
<210> 102
```

<211> 705 <212> PRT <213> Gallus gallus (Chicken) <400> 102 Met Lys Leu Ile Leu Cys Thr Val Leu Ser Leu Gly Ile Ala Val Cys Phe Ala Ala Pro Pro Lys Ser Val Ile Arg Trp Cys/Thr Ile Ser 25 Ser Pro Glu Glu Lys Lys Cys Asn Asn Leu Arg Asp Leu Thr Gln Gln 40 Glu Arg Ile Ser Leu Thr Cys Val Gln Lys Ala Thr Tyr Leu Asp Cys 55 Ile Lys Ala Ile Ala Asn Asn Glu Ala Asp Ala 🖊 le Ser Leu Asp Gly Gly Gln Ala Phe Glu Ala Gly Leu Ala Pro Tyf Lys Leu Lys Pro Ile Ala Ala Glu Val Tyr Glu His Thr Glu Gly Ser Thr Thr Ser Tyr Tyr Ala Val Ala Val Val Lys Lys Gly Thr Gl/ Phe Thr Val Asn Asp Leu 120 Gln Gly Lys Thr Ser Cys His Thr Gly Neu Gly Arg Ser Ala Gly Trp 135 Asn Ile Pro Ile Gly Thr Leu Leu Hi Arg Gly Ala Ile Glu Trp Ğlu 150 155 Gly Ile Glu Ser Gly Ser Val Glu Gin Ala Val Ala Lys Phe Phe Ser 170 165 Ala Ser Cys Val Pro Gly Ala Thr/Ile Glu Gln Lys Leu Cys Arg Gln 185 Cys Lys Gly Asp Pro Lys Thr Lys Cys Ala Arg Asn Ala Pro Tyr Ser Gly Tyr Ser Gly Ala Phe His Cys Leu Lys Asp Gly Lys Gly Asp Val 220 215 Ala Phe Val Lys His Thr Th/r Val Asn Glu Asn Ala Pro Asp Gln Lys 230 235 Asp Glu Tyr Glu Leu Leu  $\phi$ ys Leu Asp Gly Ser Arg Gln Pro Val Asp 245 250 Asn Tyr Lys Thr Cys Asn/Trp Ala Arg Val Ala Ala His Ala Val Val 265 Ala Arg Asp Asp Asn Lys Val Glu Asp Ile Trp Ser Phe Leu Ser Lys 280 295 Gly Pro Pro Gly Ly\$ Lys Asp Pro Val Leu Lys Asp Leu Leu Phe Lys 315 310 Asp Ser Ala Ile Met Leu Lys Arg Val Pro Ser Leu Met Asp Ser Gln 330 Leu Tyr Leu Gly Phe Glu Tyr Tyr Ser Ala Ile Gln Ser Met Arg Lys 345 Asp Gln Leu Th# Pro Ser Pro Arg Glu Asn Arg Ile Gln Trp Cys Ala 360 Val Gly Lys A∮p Glu Lys Ser Lys Cys Asp Arg Trp Ser Val Val Ser 380 375 Asn Gly Asp √al Glu Cys Thr Val Val Asp Glu Thr Lys Asp Cys Ile 395 390 Ile Lys Ile/Met Lys Gly Glu Ala Asp Ala Val Ala Leu Asp Gly Gly 410 405

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Leu Val Tyr Thr Ala Gly Val Cys Gly Leu Val Pro Val Met Ala/Glu
Arg Tyr Asp Asp Glu Ser Gln Cys Ser Lys Thr Asp Glu Arg Fro Ala
                                                 445
                            440
Ser Tyr Phe Ala Val Ala Val Ala Arg Lys Asp Ser Asn Va1 Asn Trp
Asn Asn Leu Lys Gly Lys Lys Ser Cys His Thr Ala Val/Gly Arg Thr
                    470
                                        475
Ala Gly Trp Val Ile Pro Met Gly Leu Ile His Asn Arg Thr Gly Thr
                                    490
                485
Cys Asn Phe Asp Glu Tyr Phe Ser Glu Gly Cys Al Pro Gly Ser Pro
                                505
Pro Asn Ser Arg Leu Cys Gln Leu Cys Gln Gly Ser Gly Gly Ile Pro
                            520
Pro Glu Lys Cys Val Ala Ser Ser His Glu Ly& Tyr Phe Gly Tyr Thr
                        535
                                            540
Gly Ala Leu Arg Cys Leu Val Glu Lys Gly Asp Val Ala Phe Ile Gln
                    550
                                         555
His Ser Thr Val Glu Glu Asn Thr Gly Gly Lys Asn Lys Ala Asp Trp
                565
Ala Lys Asn Leu Gln Met Asp Asp Phe GAu Leu Leu Cys Thr Asp Gly
                                585
                                                     590
            580
Arg Arg Ala Asn Val Met Asp Tyr Arg/Glu Cys Asn Leu Ala Glu Val
                            600
                                                 605
Pro Thr His Ala Val Val Val Arg Pro Glu Lys Ala Asn Lys Ile Arg
                        615
Asp Leu Leu Glu Arg Gln Glu Lys ≰rg Phe Gly Val Asn Gly Ser Glu
                    630
Lys Ser Lys Phe Met Met Phe Glu Ser Gln Asn Lys Asp Leu Leu Phe
                                     650
                645
Lys Asp Leu Thr Lys Cys Leu Phe Lys Val Arg Glu Gly Thr Thr Tyr
                                665
Lys Glu Phe Leu Gly Asp Lys Phe Tyr Thr Val Ile Ser Ser Leu Lys
                            680
Thr Cys Asn Pro Ser Asp Il∉ Leu Gln Met Cys Ser Phe Leu Glu Gly
Lys
705
<210> 103
<211> 147
<212> PRT
<213> Gallus gallus /(Chicken)
<400> 103
Met Arg Ser Leu Leu Ile Leu Val Leu Cys Phe Leu Pro Leu Ala Ala
Leu Gly Lys Val Phe Gly Arg Cys Glu Leu Ala Ala Ala Met Lys Arg
            20
His Gly Leu Asp Asn Tyr Arg Gly Tyr Ser Leu Gly Asn Trp Val Cys
                            40
Ala Ala Lys Phe Glu Ser Asn Phe Asn Thr Gln Ala Thr Asn Arg Asn
Thr Asp Gly Sef Thr Asp Tyr Gly Ile Leu Gln Ile Asn Ser Arg Trp
Trp Cys Asn Asp Gly Arg Thr Pro Gly Ser Arg Asn Leu Cys Asn Ile
```

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90
                85
Pro Cys Ser Ala Leu Leu Ser Ser Asp Ile Thr Ala Ser Val Asn Cys
Ala Lys Lys Ile Val Ser Asp Gly Asn Gly Met Asn Ala 7rp Val Ala
                            120
Trp Arg Asn Arg Cys Lys Gly Thr Asp Val Gln Ala Typ Ile Arg Gly
                        135
Cys Arg Leu
<210> 104
<211> 133
<212> PRT
<213> Helianthus annuus (Common sunfloyer)
<400> 104
Met Ser Trp Gln Ala Tyr Val Asp Glu/His Leu Met Cys Asp Ile Glu
Gly Thr Gly Gln His Leu Thr Ser A/2 Ala Ile Leu Gly Leu Asp Gly
Thr Val Trp Ala Gln Ser Ala Lys Phe Pro Gln Phe Lys Pro Glu Glu
Met Lys Gly Ile Ile Lys Glu Phe Asp Glu Ala Gly Thr Leu Ala Pro
                        55
Thr Gly Met Phe Ile Ala Gly Ala Lys Tyr Met Val Leu Gln Gly Glu
Pro Gly Ala Val Ile Arg Gly/Lys Lys Gly Ala Gly Gly Ile Cys Ile
Lys Lys Thr Gly Gln Ala Met Ile Met Gly Ile Tyr Asp Glu Pro Val
                                105
            100
Ala Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu
                            120
        115
Leu Glu Gln Gly Met
    130
<210> 105
<211> 137
<212> PRT
<213> Hevea brasiliensis (Para rubber tree)
<400> 105
Ala Glu Asp Glu Asp Asn Gln Gln Gly Gln Gly Glu Gly Leu Lys Tyr
Leu Gly Phe Val Gln Asp Ala Ala Thr Tyr Ala Val Thr Thr Phe Ser
Asn Val Tyr Leu Phe Ala Lys Asp Lys Ser Gly Pro Leu Gln Pro Gly
Val Asp Ile ∜le Glu Gly Pro Val Lys Asn Val Ala Val Pro Leu Tyr
Asn Arg Phe Ser Tyr Ile Pro Asn Gly Ala Leu Lys Phe Val Asp Ser
                    70
                                         75
Thr Val Val Ala Ser Val Thr Ile Ile Asp Arg Ser Leu Pro Pro Ile
                                    90
Val Lys Ast Ala Ser Ile Gln Val Val Ser Ala Ile Arg Ala Ala Pro
                                105
            100
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Glu Ala Ala Arg Ser Leu Ala Ser Ser Leu Pro Gly Gln Thr Lys Ile
                            120
Leu Ala Lys Val Phe Tyr Gly Glu Asn
                        135
    130
<210> 106
<211> 150
<212> PRT
<213> Hevea brasiliensis (Para rubber tree)
<400> 106
Ala Ser Val Glu Val Glu Ser Ala Ala Thr #la Leu Pro Lys Asn Glu
Thr Pro Glu Val Thr Lys Ala Glu Glu Thr Lys Thr Glu Glu Pro Ala
Ala Pro Pro Ala Ser Glu Gln Glu Thr Ala Asp Ala Thr Pro Glu Lys
                            40
Glu Glu Pro Thr Ala Ala Pro Ala Glu/Pro Glu Ala Pro Ala Pro Glu
                        55
Thr Glu Lys Ala Glu Glu Val Glu Lys Ile Glu Lys Thr Glu Glu Pro
                    70
Ala Pro Glu Ala Asp Gln Thr Thr ∳ro Glu Glu Lys Pro Ala Glu Pro
                                    90
                85
Glu Pro Val Ala Glu Glu Glu Pro/ Lys His Glu Thr Lys Glu Thr Glu
                                105
Thr Glu Ala Pro Ala Ala Pro Al/a Glu Gly Glu Lys Pro Ala Glu Glu
Glu Lys Pro Ile Thr Glu Ala Ala Glu Thr Ala Thr Thr Glu Val Pro
                        135
    130
Val Glu Lys Thr Glu Glu
<210> 107
<211> 265
<212> PRT
<213> Holcus lanatus (Velvet grass)
<400> 107
Met Ala Ser Ser Ser /Arg Ser Val Leu Leu Val Ala Ala Leu Phe
Ala Val Phe Leu Gl# Ser Ala His Gly Ile Ala Lys Val Pro Pro Gly
Pro Asn Ile Thr Ala Thr Tyr Gly Asp Glu Trp Leu Asp Ala Lys Ser
Thr Trp Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys Asp Asn Gly Gly
Ala Cys Gly Ty# Lys Asp Val Asp Lys Pro Pro Phe Ser Gly Met Thr
Gly Cys Gly A$n Thr Pro Ile Phe Lys Asp Gly Arg Gly Cys Gly Ser
                                    90
                85
Cys Phe Glu #le Lys Cys Thr Lys Pro Glu Ser Cys Ser Gly Glu Pro
Val Thr Val His Ile Thr Asp Asp Asn Glu Glu Pro Ile Ala Pro Tyr
                            120
His Phe Asp Leu Ser Gly His Ala Phe Gly Ser Met Ala Lys Lys Gly
```

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130
                        135
Glu Glu Gln Lys Leu Arg Ser Ala Gly Glu Leu Glu Leu Lys Phe' Arg
                    150
Arg Val Lys Cys Lys Tyr Pro Asp Gly Thr Lys Pro Thr Phe His Val
                                    170
                165
Glu Lys Gly Ser Asn Pro Asn Tyr Leu Ala Leu Leu Val Lys Tyr Ile
                                185
            180
Asp Gly Asp Gly Asp Val Val Ala Val Asp Ile Lys Glu Lys Gly Lys
                            200
                                                 205
Asp Lys Trp Ile Glu Leu Lys Glu Ser Trp Gly Ala Val/Trp Arg Val
                                            220
                        215
Asp Thr Pro Asp Lys Leu Thr Gly Pro Phe Thr Val Afg Tyr Thr Thr
                    230
Glu Gly Gly Thr Lys Gly Glu Ala Glu Asp Val Ile/Pro Glu Gly Trp
                                    250
Lys Ala Asp Thr Ala Tyr Glu Ala Lys
            260
<210> 108
<211> 146
<212> PRT
<213> Hordeum vulgare (Barley)
<400> 108
Pro Thr Ser Val Ala Val Asp Gln Gly Sef Met Val Ser Asn Ser Pro
Gly Glu Trp Cys Trp Pro Gly Met Gly T/yr Pro Val Tyr Pro Phe Pro
Arg Cys Arg Ala Leu Val Lys Ser Gln/Cys Ala Gly Gly Gln Val Val
                            40
Glu Ser Ile Gln Lys Asp Cys Cys Ar# Gln Ile Ala Ala Ile Gly Asp
                        55
Glu Trp Cys Ile Cys Gly Ala Leu Gly Ser Met Arg Gly Ser Met Tyr
                                         75
Lys Glu Leu Gly Val Ala Leu Ala Asp Asp Lys Ala Thr Val Ala Glu
                                    90
                8.5
Val Phe Pro Gly Cys Arg Thr Glu Val Met Asp Arg Ala Val Ala Ser
Leu Pro Ala Val Cys Asn Gln Tyr Ile Pro Asn Thr Asn Gly Thr Asp
Gly Val Cys Tyr Trp Leu Ser Tyr Tyr Gln Pro Pro Arg Gln Met Ser
                        135
Ser Arg
145
<210> 109
<211> 367
<212> PRT
<213> Juniperus ashei (Otark white cedar)
Met Ala Ser Pro Cys Leu/ Ile Ala Val Leu Val Phe Leu Cys Ala Ile
Val Ser Cys Tyr Ser As∳ Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp
            20
                                25
```

```
Ser Asn Trp Asp Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly
Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Gly Asp Phe Tyr Thr Val
Thr Ser Thr Asp Asp Asn Pro Val Asn Pro Thr Pro Gly Thr Leu Arg
Tyr Gly Ala Thr Arg Glu Lys Ala Leu Trp Ile Ile Phe Ser Glm Asn
Met Asn Ile Lys Leu Lys Met Pro Leu Tyr Val Ala Gly His Lys Thr
                                105
Ile Asp Gly Arg Gly Ala Asp Val His Leu Gly Asn Gly G∤y Pro Cys
                                                125
                            120
Leu Phe Met Arg Lys Val Ser His Val Ile Leu His Ser/Leu His Ile
                        135
His Gly Cys Asn Thr Ser Val Leu Gly Asp Val Leu Yal Ser Glu Ser
                    150
Ile Gly Val Glu Pro Val His Ala Gln Asp Gly Asp Ala Ile Thr Met
                                    170
                165
Arg Asn Val Thr Asn Ala Trp Ile Asp His Asn Ser Leu Ser Asp Cys
                                185
           180
Ser Asp Gly Leu Ile Asp Val Thr Leu Gly Ser Thr Gly Ile Thr Ile
                                                205
                            200
Ser Asn Asn His Phe Phe Asn His His Lys/Val Met Leu Leu Gly His
                                            220
                        215
Asp Asp Thr Tyr Asp Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe
                    230
                                        235
Asn Gln Phe Gly Pro Asn Ala Gly Gln/Arg Met Pro Arg Ala Arg Tyr
                245
Gly Leu Val His Val Ala Asn Asn Tyr Asp Pro Trp Asn Ile Tyr
            260
Ala Ile Gly Gly Ser Ser Asn Pro/Thr Ile Leu Ser Glu Gly Asn Ser
Phe Thr Ala Pro Ser Glu Ser Trr Lys Lys Glu Val Thr Lys Arg Ile
                        295
Gly Cys Glu Ser Pro Ser Ala/Cys Ala Asn Trp Val Trp Arg Ser Thr
                    310
                                        315
Arg Asp Ala Phe Ile Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Thr
                                    330
                325
Glu Glu Thr Asn Ile Tyr Asn Ser Asn Glu Ala Phe Lys Val Glu Asn
                                345
Gly Asn Ala Ala Pro Gln Leu Thr Lys Asn Ala Gly Val Val Thr
        355
                            360
<210> 110
<211> 225
<212> PRT
<213> Juniperus ashei (Ozark white cedar)
```

<400> 110 Met Ala Arg Val/Ser Glu Leu Ala Phe Leu Leu Ala Ala Thr Leu Ala Ile Ser Leu His Met Gln Glu Ala Gly Val Val Lys Phe Asp Ile Lys Asn Gln Cys Gly Tyr Thr Val Trp Ala Ala Gly Leu Pro Gly Gly Gly Lys Arg Leu Asp Gln Gly Gln Thr Trp Thr Val Asn Leu Ala Ala Gly

```
55
Thr Ala Ser Ala Arg Phe Trp Gly Arg Thr Gly Cys Thr Phe Asp Ala
Ser Gly Lys Gly Ser Cys Gln Thr Gly Asp Cys Gly Gly Gln /Leu Ser
                                     90
Cys Thr Val Ser Gly Ala Val Pro Ala Thr Leu Ala Glu Týr Thr Gln
                                105
Ser Asp Gln Asp Tyr Tyr Asp Val Ser Leu Val Asp Gly Phe Asn Ile
                             120
Pro Leu Ala Ile Asn Pro Thr Asn Ala Gln Cys Thr Ala Pro Ala Cys
                        135
                                             140
Lys Ala Asp Ile Asn Ala Val Cys Pro Ser Glu Lex Lys Val Asp Gly
                                         155
Gly Cys Asn Ser Ala Cys Asn Val Phe Lys Thr Asp Gln Tyr Cys Cys
                                     170
Arg Asn Ala Tyr Val Asp Asn Cys Pro Ala Th# Asn Tyr Ser Lys Ile
                                 185
            180
Phe Lys Asn Gln Cys Pro Gln Ala Tyr Ser Tyr Ala Lys Asp Asp Thr
                            200
Ala Thr Phe Ala Cys Ala Ser Gly Thr Asp Tyr Ser Ile Val Phe Cys
                         215
Pro
225
<210> 111
<211> 141
<212> PRT
<213> Lepidoglyphus destructor/(Storage mite)
<400> 111
Met Met Lys Phe Ile Ala Leu/Phe Ala Leu Val Ala Val Ala Ser Ala
Gly Lys Met Thr Phe Lys Asp Cys Gly His Gly Glu Val Thr Glu Leu
Asp Ile Thr Gly Cys Ser Fly Asp Thr Cys Val Ile His Arg Gly Glu
Lys Met Thr Leu Glu Ala Lys Phe Ala Ala Asn Gln Asp Thr Ala Lys
                        55
                                             60
Val Thr Ile Lys Val Leu Ala Lys Val Ala Gly Thr Thr Ile Gln Val
Pro Gly Leu Glu Thr Asp Gly Cys Lys Phe Ile Lys Cys Pro Val Lys
Lys Gly Glu Ala Ley Asp Phe Ile Tyr Ser Gly Thr Ile Pro Ala Ile
                                 105
            100
Thr Pro Lys Val Lys Ala Asp Val Thr Ala Glu Leu Ile Gly Asp His
                            120
Gly Val Met Ala \not Eys Gly Thr Val His Gly Gln Val Glu
                         135
<210> 112
<211> 263
<212> PRT
<213> Lolium perenne (Perennial ryegrass)
<400> 112
```

```
Met Ala Ser Ser Ser Val Leu Leu Val Val Ala Leu Phe Ala Val
Phe Leu Gly Ser Ala His Gly Ile Ala Lys Val Pro Pro Gly Prø Asn
Ile Thr Ala Glu Tyr Gly Asp Lys Trp Leu Asp Ala Lys Ser #hr Trp
Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys Asp Asn Gly Gly Ala Cys
Gly Tyr Lys Asn Val Asp Lys Ala Pro Phe Asn Gly Met Afhr Gly Cys
Gly Asn Thr Pro Ile Phe Lys Asp Gly Arg Gly Cys Gly Ser Cys Phe
                                    90
                85
Glu Ile Lys Cys Thr Lys Pro Glu Ser Cys Ser Gly ≸lu Ala Val Thr
                                105
Val Thr Ile Thr Asp Asp Asn Glu Glu Pro Ile Al≉ Pro Tyr His Phe
                            120
Asp Leu Ser Gly His Ala Phe Gly Ser Met Ala Lys Lys Gly Glu Glu
                        135
Gln Asn Val Arg Ser Ala Gly Glu Leu Glu Ley Gln Phe Arg Arg Val
                    150
Lys Cys Lys Tyr Pro Asp Asp Thr Lys Pro Thr Phe His Val Glu Lys
                                    170
Ala Ser Asn Pro Asn Tyr Leu Ala Ile Leu/Val Lys Tyr Val Asp Gly
                                185
            180
Asp Gly Asp Val Val Ala Val Asp Ile Lys Glu Lys Gly Lys Asp Lys
                            200
Trp Ile Glu Leu Lys Glu Ser Trp Gly Ala Val Trp Arg Ile Asp Thr
                        215
Pro Asp Lys Leu Thr Gly Pro Phe Thr Val Arg Tyr Thr Thr Glu Gly
                    230
Gly Thr Lys Ser Glu Phe Glu Asp Val Ile Pro Glu Gly Trp Lys Ala
                                    250
Asp Thr Ser Tyr Ser Ala Lys
            260
<210> 113
```

<210> 113 <211> 97

<212> PRT

<213> Lolium perenne (Perennial ryegrass)

<400> 113

Glu

```
<210> 114
<211> 97
<212> PRT
<213> Lolium perenne (Perennial ryegrass)
<400> 114
Thr Lys Val Asp Leu Thr Val Glu Lys Gly Ser Asp Ala Lys Thr Leu
Val Leu Asn Ile Lys Tyr Thr Arg Pro Gly Asp Thr Leu ≱la Glu Val
                                25
Glu Leu Arg Gln His Gly Ser Glu Glu Trp Glu Pro Met Thr Lys Lys
Gly Asn Leu Trp Glu Val Lys Ser Ala Lys Pro Leu Thr Gly Pro Met
Asn Phe Arg Phe Leu Ser Lys Gly Gly Met Lys Asn/Val Phe Asp Glu
                    70
                                        75
Val Ile Pro Thr Ala Phe Thr Val Gly Lys Thr T∳r Thr Pro Glu Tyr
                                    90
Asn
<210> 115
<211> 308
<212> PRT
<213> Lolium perenne (Perennial ryegras/s)
<400> 115
Met Ala Val Gln Lys Tyr Thr Val Ala 1/eu Phe Leu Arg Arg Gly Pro
Arg Gly Gly Pro Gly Arg Ser Tyr Ala/Ala Asp Ala Gly Tyr Thr Pro
Ala Ala Ala Thr Pro Ala Thr Pro Ala Ala Thr Pro Ala Gly Gly
                            40
Trp Arg Glu Gly Asp Asp Arg Arg Ala Glu Ala Ala Gly Gly Arg Gln
                        55
Arg Leu Ala Ser Arg Gln Pro Trp/Pro Pro Leu Pro Thr Pro Leu Arg
                                        75
Arg Thr Ser Ser Arg Ser Ser Arg Pro Pro Ser Pro Ser Pro Pro Arg
Ala Ser Ser Pro Thr Ser Ala #la Lys Ala Pro Gly Leu Ile Pro Lys
            100
Leu Asp Thr Ala Tyr Asp Val/Ala Tyr Lys Ala Ala Glu Ala His Pro
                            120
Arg Gly Gln Val Arg Arg Lef Arg His Cys Pro His Arg Ser Leu Arg
Val Ile Ala Gly Ala Leu G∤u Val His Ala Val Lys Pro Ala Thr Glu
                    150
                                        155
Glu Val Leu Ala Ala Lys | Tle Pro Thr Gly Glu Leu Gln Ile Val Asp
                                    170
                165
Lys Ile Asp Ala Ala Phe/Lys Ile Ala Ala Thr Ala Ala Asn Ala Ala
                                185
Pro Thr Asn Asp Lys Phe Thr Val Phe Glu Ser Ala Phe Asn Lys Ala
                            200
Leu Asn Glu Cys Thr Gly Gly Ala Met Arg Pro Thr Ser Ser Pro
    210
                        215
```

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Pro Ser Arg Pro Arg Ser Ser Arg Pro Thr Pro Pro Pro Ser Pro Ala
                                        235
225
Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala
                                    250
Ile Thr Ala Met Thr Gln Ala Gln Lys Ala Gly Lys Pro Ala/Ala Ala
                                265
Ala Ala Thr Ala Ala Ala Thr Val Ala Thr Ala Ala TXr Ala Ala
                            280
                                                285
Ala Val Leu Pro Pro Pro Leu Leu Val Val Gln Ser Leu/Ile Ser Leu
                                            300
                        295
Leu Ile Tyr Tyr
305
<210> 116
<211> 339
<212> PRT
<213> Lolium perenne (Perennial ryegrass)
```

<400> 116 Met Ala Val Gln Lys His Thr Val Ala Leu Phe Leu Ala Val Ala Leu Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Ala Pro 25 Ala Thr Pro Ala Thr Pro Ala Ala Pro Ala/ Thr Ala Ala Thr Pro Ala Thr Pro Ala Thr Pro Ala Thr Pro Ala A‡a Val Pro Ser Gly Lys Ala 70 Ala Ala Val Ala Ala Ala Val Val/ Pro Pro Ala Asp Lys Tyr Lys Thr Phe Val Glu Thr Phe Gly Thr Afa Thr Asn Lys Ala Phe Val Glu 1/05 100 Gly Leu Ala Ser Gly Tyr Ala Asp \$\overline{\pi}\ln Ser Lys Asn Gln Leu Thr Ser 120 Lys Leu Asp Ala Ala Leu Lys Leu/Ala Tyr Glu Ala Ala Gln Gly Ala 140 135 Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Thr Glu Ala 150 155 Leu Arg Val Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala 170 Ala Glu Glu Val Lys Val Gly Ala Ile Pro Ala Ala Glu Val Gln Leu 180 185 Ile Asp Lys Val Asp Ala Ala Tyr Arg Thr Ala Ala Thr Ala Ala Asn 200 205 Ala Ala Pro Ala Asn Asp Ly's Phe Thr Val Phe Glu Asn Thr Phe Asn 220 Asn Ala Ile Lys Val Ser Leu Gly Ala Ala Tyr Asp Ser Tyr Lys Phe 230 235 Ile Pro Thr Leu Val Ala Ala Val Lys Gln Ala Tyr Ala Ala Lys Gln 250 Ala Thr Ala Pro Glu Val/Lys Tyr Thr Val Ser Glu Thr Ala Leu Lys 265 260 Lys Ala Val Thr Ala Met Ser Glu Ala Glu Lys Glu Ala Thr Pro Ala 280 Ala Ala Ala Thr Ala Thr Pro Thr Pro Ala Ala Ala Thr Ala Thr Ala

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290
                        295
Thr Pro Ala Ala Ala Tyr Ala Thr Ala Thr Pro Ala Ala Ala Thr Ala
                    310
Thr Ala Thr Pro Ala Ala Ala Thr Ala Thr Pro Ala Ala Ala Gly Gly
                                    330
                325
Tyr Lys Val
<210> 117
<211> 158
<212> PRT
<213> Malus domestica (Apple) (Malus sylvestris)
<400> 117
Gly Val Tyr Thr Phe Glu Asn Glu Phe Thr Ser/Glu Ile Pro Pro Ser
Arg Leu Phe Lys Ala Phe Val Leu Asp Ala Asp Asn Leu Ile Pro Lys
Ile Ala Pro Gln Ala Ile Lys Gln Ala Glu #le Leu Glu Gly Asn Gly
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe/Gly Glu Gly Ser Gln Tyr
                        55
Gly Tyr Val Lys His Arg Ile Asp Ser Ile Asp Glu Ala Ser Tyr Ser
                                        75
Tyr Ser Tyr Thr Leu Ile Glu Gly Asp #la Leu Thr Asp Thr Ile Glu
Lys Ile Ser Tyr Glu Thr Lys Leu Val/Ala Cys Gly Ser Gly Ser Thr
            100
Ile Lys Ser Ile Ser His Tyr His Thr Lys Gly Asn Ile Glu Ile Lys
                            120
Glu Glu His Val Lys Val Gly Lys 🗗 Lys Ala His Gly Leu Phe Lys
                        135
                                            140
Leu Ile Glu Ser Tyr Leu Lys Asp/His Pro Asp Ala Tyr Asn
145
                    150
<210> 118
<211> 133
<212> PRT
<213> Mercurialis annua (Annual mercury)
<400> 118
Met Ser Trp Gln Thr Tyr Val Asp Asp His Leu Met Cys Asp Ile Asp
Gly Gln Gly Gln His Leu Ala Ala Ser Ile Val Gly His Asp Gly
Ser Ile Trp Ala Gln Ser Ala Ser Phe Pro Gln Leu Lys Pro Glu Glu
                            40
Ile Thr Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro
                        55
Thr Gly Leu Tyr Ile Ala Gly Thr Lys Tyr Met Val Ile Gln Gly Glu
Ser Gly Ala Val Ile Art Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile
Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val
                                105
            100
```

```
Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu
                                                 125
        115
Ile Glu Gln Gly Met
    130
<210> 119
<211> 274
<212> PRT
<213> Metapenaeus ensis (Greasyback shrimp) (Sand shrim
Met Lys Leu Glu Lys Asp Asn Ala Met Asp Arg Ala Asp Thr Leu Glu
Gln Gln Asn Lys Glu Ala Asn Asn Arg Ala Glu Lys Ser Glu Glu Glu
                                25
Val His Asn Leu Gln Lys Arg Met Gln Gln Leu Élu Asn Asp Leu Asp
Gln Val Gln Glu Ser Leu Leu Lys Ala Asn Asm Gln Leu Val Glu Lys
                                            60
Asp Lys Ala Leu Ser Asn Ala Glu Gly Glu Val Ala Ala Leu Asn Arg
                    70
Arg Ile Gln Leu Leu Glu Glu Asp Leu Glu/Arg Ser Glu Glu Arg Leu
                                    90
Asn Thr Ala Thr Thr Lys Leu Ala Glu Ala Ser Gln Ala Ala Asp Glu
                                105
Ser Glu Arg Met Arg Lys Val Leu Glu Asn Arg Ser Leu Ser Asp Glu
Glu Arg Met Asp Ala Leu Glu Asn Gln/ Leu Lys Glu Ala Arg Phe Leu
                                            140
                        135
Ala Glu Glu Ala Asp Arg Lys Tyr Asp Glu Val Ala Arg Lys Leu Ala
                                        155
                    150
Met Val Glu Ala Asp Leu Glu Arg Ala Glu Glu Arg Ala Glu Thr Gly
                                    170
Glu Ser Lys Ile Val Glu Leu Gly Glu Glu Leu Arg Val Val Gly Asn
                               185
            180
Asn Leu Lys Ser Leu Glu Val Ser Glu Glu Lys Ala Asn Gln Arg Glu
                            200
Glu Ala Tyr Lys Glu Gln Ile Lys Thr Leu Thr Asn Lys Leu Lys Ala
                        215
                                            220
Ala Glu Ala Arg Ala Glu Phe Ala Glu Arg Ser Val Gln Lys Leu Gln
                    230
Lys Glu Val Asp Arg Leu G∤u Asp Glu Leu Val Asn Glu Lys Glu Lys
                                    250
Tyr Lys Ser Ile Thr Asp Glu Leu Asp Gln Thr Phe Ser Glu Leu Ser
                                265
            260
Gly Tyr
<210> 120
<211> 180
<212> PRT
<213> Mus musculus (Mouse)
<400> 120
Met Lys Met Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys Val
```

```
His Ala Glu Glu Ala Ser Ser Thr Gly Arg Asn Phe Asn Val Glu Lys
Ile Asn Gly Glu Trp His Thr Ile Ile Leu Ala Ser Asp Lys Arg ≸lu
                            40
Lys Ile Glu Asp Asn Gly Asn Phe Arg Leu Phe Leu Glu Gln Il¢ His
Val Leu Glu Asn Ser Leu Val Leu Lys Phe His Thr Val Arg Asp Glu
Glu Cys Ser Glu Leu Ser Met Val Ala Asp Lys Thr Glu Lys Ala Gly
                                    90
                85
Glu Tyr Ser Val Thr Tyr Asp Gly Phe Asn Thr Phe Thr /le Pro Lys
                                105
Thr Asp Tyr Asp Asn Phe Leu Met Ala His Leu Ile Asp Glu Lys Asp
                            120.
Gly Glu Thr Phe Gln Leu Met Gly Leu Tyr Gly Arg 🗹 Pro Asp Leu
                        135
Met Ser Asp Ile Lys Glu Arg Phe Ala Gln Leu Cys/Glu Glu His Gly
                    150
                                        155
Ile Leu Arg Glu Asn Ile Ile Asp Leu Ser Asn Ala Asn Arg Cys Leu
                                    170
                165
Gln Ala Arg Glu
            180
<210> 121
<211> 112
<212> PRT
<213> Myrmecia pilosula (Bulldog ant) (Australian jumpe
<400> 121
Met Lys Leu Ser Cys Leu Leu Leu Thr Leu Thr Ile Ile Phe Val Leu
Thr Ile Val His Ala Pro Asn Val Glu Ala Lys Asp Leu Ala Asp Pro
                                25
Glu Ser Glu Ala Val Gly Phe Ala Asp Ala Phe Gly Glu Ala Asp Ala
                            40
Val Gly Glu Ala Asp Pro Asn Ala GI\!\!/y Leu Gly Ser Val Phe Gly Arg
                        55
Leu Ala Arg Ile Leu Gly Arg Val tle Pro Lys Val Ala Lys Lys Leu
Gly Pro Lys Val Ala Lys Val Leu/Pro Lys Val Met Lys Glu Ala Ile
Pro Met Ala Val Glu Met Ala Ly/s Ser Gln Glu Glu Gln Gln Pro Gln
                                105
<210> 122
<211> 75
<212> PRT
<213> Myrmecia pilosula (Pulldog ant) (Australian jumpe
<400> 122
Met Lys Leu Ser Cys Leu Leu Thr Leu Ala Ile Ile Phe Val Leu
Thr Ile Val His Ala Pro/Asn Val Glu Ala Lys Ala Leu Ala Asp Pro
```

```
Glu Ser Asp Ala Val Gly Phe Ala Asp Ala Val Gly Glu Ala Asp Pro
Ile Asp Trp Lys Lys Val Asp Trp Lys Lys Val Ser Lys Lys Thr Kys
Lys Val Met Leu Lys Ala Cys Lys Phe Leu Gly
<210> 123
<211> 145
<212> PRT
<213> Olea europaea (Common olive)
<400> 123
Glu Asp Ile Pro Gln Pro Pro Val Ser Gln Phe His Ile Gln Gly Gln
Val Tyr Cys Asp Thr Cys Arg Ala Gly Phe Ile fhr Glu Leu Ser Glu
Phe Ile Pro Gly Ala Ser Leu Arg Leu Gln Cys Lys Asp Lys Glu Asn
Gly Asp Val Thr Phe Thr Glu Val Gly Tyr Thr Arg Ala Glu Gly Leu
Tyr Ser Met Leu Val Glu Arg Asp His Lys/Asn Glu Phe Cys Glu Ile
                                         75
                    70
Thr Leu Ile Ser Ser Gly Arg Lys Asp Cy/s Asn Glu Ile Pro Thr Glu
Gly Trp Ala Lys Pro Ser Leu Lys Phe Lys Leu Asn Thr Val Asn Gly
Thr Thr Arg Thr Val Asn Pro Leu Gly/ Phe Phe Lys Lys Glu Ala Leu
                            120
Pro Lys Cys Ala Gln Val Tyr Asn L√s Leu Gly Met Tyr Pro Pro Asn
                        135
Met
145
<210> 124
<211> 24
<212> PRT
<213> Olea europaea (Common/olive)
<400> 124
Ala Phe Ala Asn Thr Gly Val Glu Ile Val Ser Ile Asp Thr Tyr Leu
                                     1.0
Phe Ser Leu Tyr Asp Glu Asp Lys
            20
<210> 125
<211> 29
<212> PRT
<213> Olea europaea (Common olive)
<400> 125
Val Lys Ala Val Thr/Val Leu Asn Ser Ser Glu Gly Pro His Gly Ile
Val Tyr Phe Ala Gl∱ Glu Gly Asp Gly Pro Thr Thr Val
```

```
<210> 126
<211> 19
<212> PRT
<213> Olea europaea (Common olive)
<220>
<221> UNSURE
<222> 14, 16
<223> Xaa = any amino acid
<400> 126
Ala Pro Ser Gln Gly Thr Val Thr Ala Lys Leu Thr/Ser Xaa Val Xaa
                                   10
Tyr Lys Asp
<210> 127
<211> 263
<212> PRT
<213> Oryza sativa (Rice)
<400> 127
Met Ala Ser Ser Ser Leu Leu Ala C√s Val Val Val Ala Ala Met
Val Ser Pro Ser Pro Ala Gly His Pro Lys Val Pro Pro Gly Pro Asn
                               25
Ile Thr Thr Ser Tyr Gly Asp Lys Trp Leu Glu Ala Arg Pro Pro Gly
Met Val Arg Pro Arg Val Leu Ala Pro Lys Asp Asn Gly Gly Ala Cys
Gly Tyr Lys Asp Val Asp Lys Ala Pro Phe Leu Gly Met Asn Ser Cys
                   70
Gly Asn Asp Pro Ile Phe Lys Asp Gly Lys Gly Cys Gly Ser Cys Phe
                                   90
Glu Ile Lys Cys Ser Lys Pro Gau Ala Cys Ser Asp Lys Pro Ala Leu
                               105
Ile His Val Thr Asp Met Asn/\!\!\!/Asp Glu Pro Ile Ala Ala Tyr His Phe
140
Arg Lys Ala Gly Ile Ile Asp Thr Gln Phe Arg Arg Val Lys Cys Lys
                                       155
                   150
Tyr Pro Ala Asp Thr Lys/Ile Thr Phe His Ile Glu Lys Ala Ser Asn
                                   170
               165
Pro Asn Tyr Leu Ala Ley Leu Val Lys Tyr Val Ala Gly Asp Gly Asp
                               185
           180
Val Val Glu Val Glu I/le Lys Glu Lys Gly Ser Glu Glu Trp Lys Ala
                           200
Leu Lys Glu Ser Trp oldsymbol{\mathcal{E}}ly Ala Ile Trp Arg Ile Asp Thr Pro Lys Pro
                                           220
                       215
Leu Lys Gly Pro Phe Ser Val Arg Val Thr Thr Glu Gly Ala Arg Arg
                   230
                                       235
Ser Ser Ala Glu Asp Ala Ile Pro Asp Pro Gly Arg Arg Gln Arg Val
```

```
255
                                     250
                245
Gln Val Asn Val Gln Ala Lys
            260
<210> 128
<211> 139
<212> PRT
<213> Parietaria judaica
<400> 128
Gln Glu Thr Cys Gly Thr Met Val Arg Ala Leu Met Prø Cys Leu Pro
Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys Gly ⊄ys Cys Ser Gly
Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly Pro Gln Arg Val His
Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr Tyr Ser Asp Ile Asp
Gly Lys Leu Val Ser Glu Val Pro Lys His Cys/Gly Ile Val Asp Ser
                    70
Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys Lys Thr Val Gly Val
                                     90
                85
val Pro Arg Gln Pro Gln Leu Pro Val Ser Leu Arg His Gly Pro Val
                                 105
Thr Gly Pro Ser Asp Pro Ala His Lys Ala Arg Leu Glu Arg Pro Gln
                            120
Ile Arg Val Pro Pro Pro Ala Pro Glu L∳s Ala
    130
                        135
<210> 129
<211> 176
<212> PRT
<213> Parietaria judaica
<400> 129
Met Arg Thr Val Ser Ala Pro Ser Ala Val Ala Leu Val Val Ile Val
Ala Ala Gly Leu Ala Trp Thr Sér Leu Ala Ser Val Ala Pro Pro Ala
Pro Ala Pro Gly Ser Glu Glu /Thr Cys Gly Thr Val Val Arg Ala Leu
Met Pro Cys Leu Pro Phe Va∮Gln Gly Lys Glu Lys Glu Pro Ser Lys
Gly Cys Cys Ser Gly Ala L∳s Arg Leu Asp Gly Glu Thr Lys Thr Gly
                    70
Leu Gln Arg Val His Ala 	extcolor{c}ys Glu Cys Ile Gln Thr Ala Met Lys Thr
                                     90
                85
Tyr Ser Asp Ile Asp Gly/Lys Leu Val Ser Glu Val Pro Lys His Cys
                                 105
            100
Gly Ile Val Asp Ser Ly/s Leu Pro Pro Ile Asp Val Asn Met Asp Cys
                            120
Lys Thr Leu Gly Val Val Pro Arg Gln Pro Gln Leu Pro Val Ser Leu
                                             140
                        135
Arg His Gly Pro Val Thr Gly Pro Ser Asp Pro Ala His Lys Ala Arg
145
                    150
                                         155
```

```
Leu Glu Arg Pro Gln Ile Arg Val Pro Pro Pro Ala Pro Glu Lys Ala
                                     170
<210> 130
<211> 138
<212> PRT
<213> Parietaria judaica
<400> 130
Met Arg Thr Val Ser Ala Arg Ser Ser Val Ala Leu Val Val Ile Val
Ala Ala Val Leu Val Trp Thr Ser Ser Ala Ser Val/Ala Pro Ala Pro
Ala Pro Gly Ser Glu Glu Thr Cys Gly Thr Val Val Gly Ala Leu Met
Pro Cys Leu Pro Phe Val Gln Gly Lys Glu Lys/Glu Pro Ser Lys Gly
Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly Gl/u Thr Lys Thr Gly Pro
Gln Arq Val His Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr Tyr
Ser Asp Ile Asp Gly Lys Leu Val Ser Glu/Val Pro Lys His Cys Gly
                                105
            100
Ile Val Asp Ser Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys Lys
                             120
Thr Leu Gly Val Leu His Tyr Lys Gly Asn
                        135
<210> 131
<211> 133
<212> PRT
<213> Parietaria judaica
<400> 131
Met Arg Thr Val Ser Met Ala Ala Leu Val Val Ile Ala Ala Ala Leu
                                     10
Ala Trp Thr Ser Ser Ala Glu Pro Ala Pro Ala Pro Ala Pro Gly Glu
Glu Ala Cys Gly Lys Val Val 
olimits dIn Asp Ile Met Pro Cys Leu His Phe
Val Lys Gly Glu Glu Lys Glu Pro Ser Lys Glu Cys Cys Ser Gly Thr
Lys Lys Leu Ser Glu Glu Val/ Lys Thr Thr Glu Gln Lys Arg Glu Ala
Cys Lys Cys Ile Val Arg Ala Thr Lys Gly Ile Ser Gly Ile Lys Asn
Glu Leu Val Ala Glu Val Pro Lys Lys Cys Asp Ile Lys Thr Thr Leu
                                 105
Pro Pro Ile Thr Ala Asp Phe Asp Cys Ser Lys Ile Gln Ser Thr Ile
                            120
Phe Arg Gly Tyr Tyr
    130
<210> 132
```

```
<211> 133
<212> PRT
<213> Parietaria judaica
<400> 132
Met Arg Thr Val Ser Met Ala Ala Leu Val Val Ile Ala Ala Ala Leu
Ala Trp Thr Ser Ser Ala Glu Leu Ala Ser Ala Pro Ala Pro/Gly Glu
                                 25
Gly Pro Cys Gly Lys Val Val His His Ile Met Pro Cys Leu Lys Phe
                             40
Val Lys Gly Glu Glu Lys Glu Pro Ser Lys Ser Cys /Ser Gly Thr
Lys Lys Leu Ser Glu Glu Val Lys Thr Thr Glu Gln Lys Arg Glu Ala
Cys Lys Cys Ile Val Ala Ala Thr Lys Gly Ile Ser Gly Ile Lys Asn
                                     90
Glu Leu Val Ala Glu Val Pro Lys Lys Cys Gly Ile/Thr Thr Thr Leu
                                105
Pro Pro Ile Thr Ala Asp Phe Asp Cys Ser Lys Il Glu Ser Thr Ile
                             120
Phe Arg Gly Tyr Tyr
    130
<210> 133
<211> 269
<212> PRT
<213> Phalaris aquatica (Canary grass)
<400> 133
Met Met Lys Met Val Cys Ser Ser Ser Ser/Ser Ser Leu Leu Val Val
                                     10
Ala Ala Leu Leu Ala Val Phe Val Gly Se\!\!\!/\,\!\!\!/ Ala Gln Gly Ile Ala Lys
Val Pro Pro Gly Pro Asn Ile Thr Ala Gau Tyr Gly Asp Lys Trp Leu
                             40
Asp Ala Lys Ser Thr Trp Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys
Asp Asn Gly Gly Ala Cys Gly Tyr Lys/Asp Val Asp Lys Ala Pro Phe
Asn Gly Met Thr Gly Cys Gly Asn Th{\not r} Pro Ile Phe Lys Asp Gly Arg
Gly Cys Gly Ser Cys Phe Glu Leu L∜s Cys Ser Lys Pro Glu Ser Cys
Ser Gly Glu Pro Ile Thr Val His \ddaggerle Thr Asp Asp Asn Glu Glu Pro
                             120
Ile Ala Pro Tyr His Phe Asp Leu/Ser Gly His Ala Phe Gly Ser Met
                                             140
                         135
Ala Lys Lys Gly Glu Glu Glu Asr Val Arg Gly Ala Gly Glu Leu Glu
                                         155
                    150
Leu Gln Phe Arg Arg Val Lys Cys Lys Tyr Pro Asp Gly Thr Lys Pro
                                     170
Thr Phe His Val Glu Lys Gly Ser Asn Pro Asn Tyr Leu Ala Leu Leu
                                 185
Val Lys Tyr Val Asp Gly Asp Gly Asp Val Val Ala Val Asp Ile Lys
```

```
Glu Lys Gly Lys Asp Lys Trp Ile Glu Leu Lys Glu Ser Trp Gly A
Ile Trp Arg Ile Asp Thr Pro Asp Lys Leu Thr Gly Pro Phe Thr/Val
                    230
                                        235
Arg Tyr Thr Thr Glu Gly Gly Thr Lys Ala Glu Phe Glu Asp Val Ile
                                    250
Pro Glu Gly Trp Lys Ala Asp Thr His Asp Ala Ser Lys
            260
<210> 134
<211> 320
<212> PRT
<213> Phalaris aquatica (Canary grass)
<400> 134
Met Ala Val Gln Lys Tyr Thr Met Ala Leu Phe Le/u Ala Val Ala Leu
                                    10
Val Ala Gly Pro Ala Ala Pro Thr Pro Pro Thr ∜ro Arg Thr Pro Pro
                                25
Leu Leu Pro Pro Pro Arg Ala Arg Asp Lys Ala/Thr Leu Thr Ser Arg
Ser Val Glu Asp Ile Asn Ala Ala Ser Arg Arg Pro Trp Trp Ala Ser
                        55
                                            60
Val Pro Pro Ala Asp Lys Phe Lys Thr Phe Ala Asp His Val Leu Cys
                    70
                                         75
Val Pro Asn Ala Asp Val Thr Ser Ala Al≱ Thr Lys Ala Pro Gln Leu
Lys Ala Lys Leu Asp Ala Ala Tyr Arg Val Ala Tyr Glu Ala Ala Glu
                                105
            100
Gly Ser Thr Pro Glu Ala Lys Tyr Asp/Ala Phe Ile Ala Ala Leu Thr
                            120
Glu Ala Leu Arg Val Ile Ala Gly Ald Phe Glu Val His Ala Val Lys
                                             140
                        135
Pro Ala Thr Glu Glu Val Val Ala Asp Pro Val Gly Glu Leu Gln Ile
                    150
                                        155
Val Asp Lys Ile Asp Ala Ala Phe/Lys Ile Ala Ala Thr Ala Ala Asn
                                    170
                165
Ser Ala Pro Ala Asn Asp Lys Ph∉ Thr Val Phe Glu Gly Ala Phe Asn
                                185
Lys Ala Ile Lys Glu Ser Thr A/a Gly Ala Tyr Glu Thr Tyr Lys Phe
Ile Pro Ser Leu Glu Ala Ala #al Lys Gln Ala Tyr Gly Ala Thr Val
                        215
Ala Arg Ala Pro Glu Val Lys/ Tyr Ala Val Phe Glu Ala Gly Leu Thr
                    230
                                        235
Lys Ala Ile Thr Ala Met Ser Glu Ala Gln Lys Val Ala Lys Pro Pro
                                    250
                245
Leu Ser Pro Gln Pro Pro 🗗 Val Leu Pro Leu Ala Ala Gly Gly Ala
                                 265
            260
Ala Thr Val Ala Ala Ala/Ser Asp Val Arg Val Cys Arg Ser His Gly
                            280
Thr Leu Gln Asp Ala Cy≰ Leu Leu Arg Cys Arg Gly Gly Cys Gln Pro
                        295
Val Val Trp Arg Gly G∜y Ser His Arg Ala Arg Gly Gly Tyr Lys Val
```

```
<210> 135
<211> 305
<212> PRT
<213> Phalaris aquatica (Canary grass)
<400> 135
Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu
Val Ala Gly Pro Ala Ala Leu Tyr Ala Gly Asp Gly Tyr Ala Pro Ala
                                 25
            20
Thr Pro Ala Ala Ser Ala Thr Leu Ala Thr Pro Ala Thr Pro Ala Ala
Ser Pro Gln His Ala Gly Thr Thr Glu Tyr His Ile Va/ Arg Lys Ala
Gly Leu Asn Glu Glu Lys Asn Ala Ala Arg Gln Thr Asp Asp Glu Gln
                    70
Lys Arg Ser Asp Glu Ile Asn Cys Pro Asp Phe Asn/Lys Ser Val His
                                     90
Cys Arg Ala Asp Arg Leu Pro Val Cys Ser Ser Thr Ser Ala His Ser
                                105
            100
Ser Lys Gln Asp Val Ala Trp Met Leu Gly Tyr $\oldsymbol{t}$ly Ser Ile Gln Gly
                            120
Phe Ser Met Asp Asp Ala Ser Val Gly Ser Val Ser Ser Glu Phe His
                        135
                                             140
Val Ile Glu Ser Ala Ile Glu Val Ile Thr T√r Ile Gly Glu Glu Val
                    150
Lys Val Ile Pro Ala Gly Glu Val Glu Val fle Asn Lys Val Lys Ala
                165
Ala Phe Ser Thr Ala Ala Thr Ala Ala Asp Glu Ala Pro Ala Asn Asp
                                 185
            180
Lys Phe Thr Val Phe Val Ser Ser Phe Asn Lys Ala Ile Lys Glu Thr
                            200
Thr Gly Gly Ala Tyr Ala Gly Tyr Lys /Phe Ile Pro Thr Leu Glu Ala
                        215
                                             220
Ala Val Lys Gln Ala Tyr Ala Ala Sef Ser Ala Thr Ala Pro Glu Val
                    230
                                         235
Lys Tyr Ala Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Ser Ala Met
                                     250
Ser Glu Ala Gln Lys Glu Ala Lys Pro Ala Ala Ala Ile Ser Ala Ala
            260
Thr Thr Thr Ile Ser Ala Ser Thr Ala Thr Pro Ala Ala Pro Pro Pro
Pro Gln Leu Gly Thr Ala Thr Pro Ala Ala Val Ala Gly Gly Tyr Lys
                        295
Val
305
<210> 136
<211> 294
<212> PRT
<213> Phalaris aquatica (Canary grass)
Met Ala Val Gln Lys Tyr/Thr Val Ala Leu Phe Leu Ala Met Ala Leu
```

```
Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Thr Pro Pro
Thr Pro Ala Thr Pro Ala Val Pro Gly Ala Ala Ala Gly Lys Ala Thr
Thr His Glu Gln Lys Leu Ile Glu Asp Ile Asn Ala Ala Ahe Lys Trp
Trp Pro Ala Ser Ala Pro Pro Ala Asp Lys Tyr Lys Thr Phe Glu Thr
Ala Phe Ser Lys Ala Asn Ile Ala Gly Ala Ser Thr Lys Gly Leu Asp
Ala Ala Tyr Ser Val Val Tyr Asn Thr Ala Ala Gl∳ Ala Thr Pro Glu
                                105
                                                    110
            100
Ala Lys Tyr Asp Ser Phe Val Thr Ala Leu Thr Élu Ala Leu Arg Ile
                            120
Met Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Thr Glu Glu
Glu Val Pro Ser Ala Lys Ile Leu Arg Ala Asn Ser Arg Ser Ser Thr
                    150
Arg Ser Ser Arg Phe Lys Ile Ala Ala Thr/Val Ala Thr Pro Leu Ser
                                    170
                165
His Ser Thr Ala Ala Asn Ser Ala Pro Ala Asn Asp Lys Phe Thr Val
                                185
            180
Phe Glu Gly Ala Phe Asn Lys Ala Ile 🏰 ys Glu Arg His Gly Gly Pro
                            200
Thr Glu Thr Tyr Lys Phe Ile Pro Ser/Leu Glu Ala Ala Val Lys Gln
                        215
                                            220
Ala Tyr Gly Ala Thr Val Ala Arg Ala Pro Glu Val Lys Tyr Ala Val
                    230
Phe Glu Ala Gly Leu Thr Lys Ala #le Thr Ala Met Ser Glu Ala Gln
                                    250
Lys Val Ala Lys Pro Val Arg Let Ser Pro Gln Pro Pro Gln Val Leu
                                265
            260
Pro Leu Ala Ala Gly Gly Ala A/a Thr Val Ala Ala Ala Ser Asp Ser
Arg Gly Gly Tyr Lys Val
    290
```

<210> 137 <211> 175

<212> PRT

<213> Phalaris aquatica/(Canary grass)

```
100
                               105
Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Gly Leu Thr L/s Ala
                           120
Ile Thr Ala Met Ser Glu Ala Gln Lys Val Ala Lys Pro Val/Arg Ser
                                           140
                       135
Val Thr Ala Ala Ala Ala Gly Ala Ala Thr Ala Ala Gly G∕ly Ala Ala
                                      155
                   150
Thr Val Ala Ala Ser Arg Pro Thr Ser Ala Gly Gly Tyr/Lys Val
                                   170
<210> 138
<211> 263
<212> PRT
<213> Phleum pratense (Common timothy)
<400> 138
Met Ala Ser Ser Ser Val Leu Leu Val Va/1 Val Leu Phe Ala Val
Phe Leu Gly Ser Ala Tyr Gly Ile Pro Lys #al Pro Pro Gly Pro Asn
Ile Thr Ala Thr Tyr Gly Asp Lys Trp Let Asp Ala Lys Ser Thr Trp
                           40
55
                                           60
Gly Tyr Lys Asp Val Asp Lys Pro Pro/Phe Ser Gly Met Thr Gly Cys
Gly Asn Thr Pro Ile Phe Lys Ser Gly Arg Gly Cys Gly Ser Cys Phe
Glu Ile Lys Cys Thr Lys Pro Glu Ala Cys Ser Gly Glu Pro Val Val
                               105
           100
Val His Ile Thr Asp Asp Asn Gl√ Glu Pro Ile Ala Pro Tyr His Phe
                           12/0
Asp Leu Ser Gly His Ala Phe Gay Ala Met Ala Lys Lys Gly Asp Glu
                       135
                                           140
Gln Lys Leu Arg Ser Ala Gly/Glu Leu Glu Leu Gln Phe Arg Arg Val
                   150
                                       155
Lys Cys Lys Tyr Pro Glu Gl# Thr Lys Val Thr Phe His Val Glu Lys
                                   170
Gly Ser Asn Pro Asn Tyr Leu Ala Leu Leu Val Lys Tyr Val Asn Gly
           180
                               185
Asp Gly Asp Val Val Ala/Val Asp Ile Lys Glu Lys Gly Lys Asp Lys
Trp Ile Glu Leu Lys Gly Ser Trp Gly Ala Ile Trp Arg Ile Asp Thr
                                           220
                      215
Pro Asp Lys Leu Thr Gary Pro Phe Thr Val Arg Tyr Thr Thr Glu Gly
                                       235
Gly Thr Lys Thr Glu Ala Glu Asp Val Ile Pro Glu Gly Trp Lys Ala
                                   250
               245
Asp Thr Ser Tyr Gly Ser Lys
           260
<210> 139
<211> 122
<212> PRT
<213> Phleum pratense (Common timothy)
```

```
<400> 139
Met Ser Met Ala Ser Ser Ser Ser Ser Leu Leu Ala Met Ala Val
Leu Ala Ala Leu Phe Ala Gly Ala Trp Cys Val Pro Lys Va/ Thr Phe
Thr Val Glu Lys Gly Ser Asn Glu Lys His Leu Ala Val 1/eu Val Lys
Tyr Glu Gly Asp Thr Met Ala Glu Val Glu Leu Arg Gly His Gly Ser
                        55
Asp Glu Trp Val Ala Met Thr Lys Gly Glu Gly Val Trp Thr Phe
                    70
                                        75
Asp Ser Glu Glu Pro Leu Gln Gly Pro Phe Asn Phe Arg Phe Leu Thr
Glu Lys Gly Met Lys Asn Val Phe Asp Asp Val Val Pro Glu Lys Tyr
                                                     110
Thr Ile Gly Ala Thr Tyr Ala Pro Glu Glu
                            120
        115
<210> 140
<211> 286
<212> PRT
<213> Phleum pratense (Common timothy)
<400> 140
Ala Asp Leu Gly Tyr Gly Pro Ala Thr /Pro Ala Ala Pro Ala Ala Gly
Tyr Thr Pro Ala Thr Pro Ala Ala Pr\phi Ala Gly Ala Asp Ala Ala Gly
Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly
Phe Lys Ala Ala Leu Ala Gly Ala/Gly Val Gln Pro Ala Asp Lys Tyr
Arg Thr Phe Val Ala Thr Phe Gl/y Pro Ala Ser Asn Lys Ala Phe Ala
Glu Gly Leu Ser Gly Glu Pro Lys Gly Ala Ala Glu Ser Ser Lys
                                    90
                8.5
Ala Ala Leu Thr Ser Lys Leu/Asp Ala Ala Tyr Lys Leu Ala Tyr Lys
Thr Ala Glu Gly Ala Thr Pr/o Glu Ala Lys Tyr Asp Ala Tyr Val Ala
                            120
Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Leu Glu Val His
                                             140
                        135
Ala Val Lys Pro Ala Ala/Glu Glu Val Lys Val Ile Pro Ala Gly Glu
                                        155
Leu Gln Val Ile Glu Ly/s Val Asp Ala Ala Phe Lys Val Ala Ala Thr
                                    170
                165
Ala Ala Asn Ala Ala Aro Ala Asn Asp Lys Phe Thr Val Phe Glu Ala
                                185
            180
Ala Phe Asn Asp Glu/Ile Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser
                            200
Tyr Lys Phe Ile Pr\phi Ala Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala
                        215
Ala Thr Val Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Phe Glu Thr
                   230
                                        235
Ala Leu Lys Lys Ana Ile Thr Ala Met Ser Glu Ala Gln Lys Ala Ala
```

```
250
                245
Lys Pro Ala Ala Ala Ala Thr Ala Thr Ala Thr Ala Ala Val Øly Ala
                                265
Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly Gly Tyr Lys Va/1
                            280
<210> 141
<211> 284
<212> PRT
<213> Phleum pratense (Common timothy)
<400> 141
Ala Ala Ala Val Pro Arg Arg Gly Pro Arg/Gly Gly Pro Gly Arg
Ser Tyr Thr Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala
Gly Ala Ala Ala Gly Lys Ala Thr Thr Glu/Glu Gln Lys Leu Ile Glu
Asp Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ser Val
Pro Ala Ala Asp Lys Phe Lys Thr Phe 🗗 Ala Ala Phe Thr Ser Ser
                    70
                                        75
Ser Lys Ala Ala Ala Lys Ala Pro/Gly Leu Val Pro Lys Leu Asp
                85
                                    90
Ala Ala Tyr Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu
Ala Lys Phe Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val
                            120
Ile Ala Gly Ala Leu Glu Val Hi$ Ala Val Lys Pro Val Thr Glu Glu
                                            140
                        135
Pro Gly Met Ala Lys Ile Pro A/a Gly Glu Leu Gln Ile Ile Asp Lys
                                        155
                    150
Ile Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Ala Thr Ala Pro
                165
                                    170
Ala Asp Asp Lys Phe Thr Va/ Phe Glu Ala Ala Phe Asn Lys Ala Ile
                                185
            180
Lys Glu Ser Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser
                            200
Leu Glu Ala Ala Val Lys/Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala
                        215
Pro Gln Val Lys Tyr Alá Val Phe Glu Ala Ala Leu Thr Lys Ala Ile
Thr Ala Met Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala
                245
                                    250
Ala Thr Val Ala Ala /Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser
                                265
            260
Gly Ala Ala Thr Va Ala Ala Gly Gly Tyr Lys Val
                            280
<210> 142
<211> 132
<212> PRT
<213> Phleum pratense (Common timothy)
<400> 142
```

```
Met Val Ala Met Phe Leu Ala Val Ala Val Val Leu Gly Leu Ala Thr
Ser Pro Thr Ala Glu Gly Gly Lys Ala Thr Thr Glu Glu Gln/Lys Leu
Ile Glu Asp Val Asn Ala Ser Phe Arg Ala Ala Met Ala Thr Thr Ala
Asn Val Pro Pro Ala Asp Lys Tyr Lys Thr Phe Glu Ala/Ala Phe Thr
Val Ser Ser Lys Arg Asn Leu Ala Asp Ala Val Ser L√s Ala Pro Gln
Leu Val Pro Lys Leu Asp Glu Val Tyr Asn Ala Ala/Tyr Asn Ala Ala
                                    90
Asp His Ala Ala Pro Glu Asp Lys Tyr Glu Ala Phe Val Leu His Phe
                                105
Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Pro Glu Val His Ala Val
                            120
                                                 125
Lys Pro Gly Ala
    130
<210> 143
<211> 131
<212> PRT
<213> Phleum pratense (Common timothy
<400> 143
Met Ser Trp Gln Thr Tyr Val Asp Glu/His Leu Met Cys Glu Ile Glu
Gly His His Leu Ala Ser Ala Ala Il Leu Gly His Asp Gly Thr Val
Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr
                            40
Gly Ile Met Lys Asp Phe Asp Glu/Pro Gly His Leu Ala Pro Thr Gly
Met Phe Val Ala Gly Ala Lys Ty# Met Val Ile Gln Gly Glu Pro Gly
                                        75
                    70
Arg Val Ile Arg Gly Lys Lys GAy Ala Gly Gly Ile Thr Ile Lys Lys
                                    90
Thr Gly Gln Ala Leu Val Val/Gly Ile Tyr Asp Glu Pro Met Thr Pro
                                105
Gly Gln Cys Asn Met Val Va/ Glu Arg Leu Gly Asp Tyr Leu Val Glu
        115
                            120
Gln Gly Met
    130
<210> 144
<211> 131
<212> PRT
<213> Phleum pratense (Common timothy)
<400> 144
Met Ser Trp Gln Thr/Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu
Gly His His Leu Ala Ser Ala Ala Ile Leu Gly His Asp Gly Thr Val
Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr
```

```
40
Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro/Thr Gly
Met Phe Val Ala Gly Ala Lys Tyr Met Val Ile Gln Gly 🗹 u Pro Gly
Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thy Ile Lys Lys
Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu ≠ro Met Thr Pro
                                105
Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu
        115
                            120
Gln Gly Met
    130
<210> 145
<211> 131
<212> PRT
<213> Phleum pratense (Common timothy)
<400> 145
Met Ser Trp Gln Thr Tyr Val Asp Glu/His Leu Met Cys Glu Ile Glu
                                    10
Gly His His Leu Ala Ser Ala Ala Il Phe Gly His Asp Gly Thr Val
Trp Ala Gln Ser Ala Asp Phe Pro Gin Phe Lys Pro Glu Glu Ile Thr
Gly Ile Met Lys Asp Leu Asp Glu/Pro Gly His Leu Ala Pro Thr Gly
Met Phe Val Ala Ala Ala Lys Ty# Met Val Ile Gln Gly Glu Pro Gly
Ala Val Ile Arg Gly Lys Lys GAy Ala Gly Gly Ile Thr Ile Lys Lys
Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro
                                105
Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu
                            120
        115
Gln Gly Met
    130
<210> 146
<211> 373
<212> PRT
<213> Poa pratensis (Kentucky bluegrass)
<400> 146
Met Asp Lys Ala Asn Gly Ala Tyr Lys Thr Ala Leu Lys Ala Ala Ser
                                    10
Ala Val Ala Pro Al\phi Glu Lys Phe Pro Val Phe Gln Ala Thr Phe Asp
Lys Asn Leu Lys Gl/u Gly Leu Ser Gly Pro Asp Ala Val Gly Phe Ala
                            40
Lys Lys Leu Asp Ala Phe Ile Gln Thr Ser Tyr Leu Ser Thr Lys Ala
                                             60
Ala Glu Pro Lys Glu Lys Phe Asp Leu Phe Val Leu Ser Leu Thr Glu
                    70
```

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Val Leu Arg Phe Met Ala Gly Ala Val Lys Ala Pro Pro Ala Ser Lys
                                    90
Phe Pro Ala Lys Pro Ala Pro Lys Val Ala Ala Tyr Thr Pro Ala Ala
            100
                                105
Pro Ala Gly Ala Ala Pro Lys Ala Thr Thr Asp Glu Gln 比ys Leu Ile
                            120
                                                 125
Glu Lys Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Gly
                        135
                                             140
Val Pro Ala Ala Ser Lys Tyr Lys Thr Phe Val Ala /Thr Phe Gly Ala
                    150
                                        155
Ala Ser Asn Lys Ala Phe Ala Glu Ala Leu Ser Thr Glu Pro Lys Gly
                                    170
                165
Ala Ala Val Ala Ser Ser Lys Ala Val Leu Thr/Ser Lys Leu Asp Ala
                                185
Ala Tyr Lys Leu Ala Tyr Lys Ser Ala Glu Gly Ala Thr Pro Glu Ala
                            200
Lys Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile
                        215
                                             220
Ala Gly Thr Leu Glu Val His Gly Val Lys Pro Ala Ala Glu Glu Val
                                        235
                    230
Lys Ala Ile Pro Ala Gly Glu Leu Gln Val Ile Asp Lys Val Asp Ala
                                     250
                245
Ala Phe Lys Val Ala Ala Thr Ala Ala/Asn Ala Ala Pro Ala Asn Asp
                                265
            260
Lys Phe Thr Val Phe Glu Ala Ala Ph∉ Asn Asp Ala Ile Lys Ala Ser
                            280
                                                 285
Thr Gly Gly Ala Tyr Gln Ser Tyr L\rlap/vs Phe Ile Pro Ala Leu Glu Ala
                                             300
                        295
Ala Val Lys Gln Ser Tyr Ala Ala /Thr Val Ala Thr Ala Pro Ala Val
                    310
                                         315
Lys Tyr Thr Val Phe Glu Thr Ald Leu Lys Lys Ala Ile Thr Ala Met
                                    330
Ser Gln Ala Gln Lys Ala Ala L∳s Pro Ala Ala Ala Val Thr Gly Thr
                                345
            340
Ala Thr Ser Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Ala
                            360
Gly Gly Tyr Lys Val
 . 370
<210> 147
<211> 333
<212> PRT
<213> Poa pratensis (Kéntucky bluegrass)
<400> 147
Met Ala Val His Gln Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu
                                     10
Val Ala Gly Pro Ala/Ala Ser Tyr Ala Ala Asp Val Gly Tyr Gly Ala
                                25
            20
Pro Ala Thr Leu Al/a Thr Pro Ala Thr Pro Ala Ala Pro Ala Ala Gly
                            40
Tyr Thr Pro Ala #la Pro Ala Gly Ala Ala Pro Lys Ala Thr Thr Asp
Glu Gln Lys Leu/Ile Glu Lys Ile Asn Ala Gly Phe Lys Ala Ala Val
Ala Ala Ala Ala Gly Val Pro Ala Val Asp Lys Tyr Lys Thr Phe Val
```

```
85
Ala Thr Phe Gly Thr Ala Ser Asn Lys Ala Phe Ala Glu Ala/Leu Ser
Thr Glu Pro Lys Gly Ala Ala Ala Ala Ser Ser Asn Ala Yal Leu Thr
                           120
Ser Lys Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys Ser Ala Glu Gly
                       135
                                           140
Ala Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala/Thr Leu Ser Glu
                   150
                                       155
Ala Leu Arg Ile Ile Ala Gly Thr Leu Glu Val HAs Ala Val Lys Pro
                                   170
               165
Ala Gly Glu Glu Val Lys Ala Ile Pro Ala Gly/Glu Leu Gln Val Ile
                               185
Asp Lys Val Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala
                           200
Ala Pro Ala Asn Asp Lys Phe Thr Val Phe/Glu Ala Ala Phe Asn Asp
                       215
Ala Ile Lys Ala Ser Thr Gly Gly Ala T√r Gln Ser Tyr Lys Phe Ile
                   230
                                      235
Pro Ala Leu Glu Ala Ala Val Lys Gln $er Tyr Ala Ala Thr Val Ala
                                   250
               245
Thr Ala Pro Ala Val Lys Tyr Thr Val/Phe Glu Thr Ala Leu Lys Lys
           260
Ala Ile Thr Ala Met Ser Gln Ala G1/n Lys Ala Ala Lys Pro Ala Ala
                           280
                                               285
Ala Val Thr Ala Thr Ala Thr Gly Ala Val Gly Ala Ala Thr Gly Ala
                       295
Val Gly Ala Ala Thr Gly Ala Ala/ Thr Ala Ala Ala Gly Gly Tyr Lys
                   310
Thr Gly Ala Ala Thr Pro Thr Afa Gly Gly Tyr Lys Val
                                   330
               325
<210> 148
<211> 307
<212> PRT
<213> Poa pratensis (Kentµcky bluegrass)
<400> 148
Met Ala Val Gln Lys Tyr /Thr Val Ala Leu Phe Leu Val Ala Leu Val
Val Gly Pro Ala Ala Ser Tyr Ala Ala Asp Leu Ser Tyr Gly Ala Pro
Ala Thr Pro Ala Ala Pro Ala Ala Gly Tyr Thr Pro Ala Ala Pro Ala
Gly Ala Ala Pro Lys Ala Thr Thr Asp Glu Gln Lys Met Ile Glu Lys
Ile Asn Val Gly Phe/Lys Ala Ala Val Ala Ala Ala Gly Gly Val Pro
                   70
Ala Ala Asn Lys Ty\sharp Lys Thr Phe Val Ala Thr Phe Gly Ala Ala Ser
                                   90
105
Val Asp Ser Ser ♯ys Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala Tyr
                           120
Lys Leu Ala Tyr/Lys Ser Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr
```

Lys

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Asp Asp Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala/Gly
                                          155
                      150
 Thr Leu Glu Val His Gly Val Lys Pro Ala Ala Glu Glu Val Lys Ala
                 165
                                      170
 Thr Pro Ala Gly Glu Leu Gln Val Ile Asp Lys Val Asp Ala/Ala Phe
                                  185
 Lys Val Ala Ala Thr Ala Ala Asn Ala Pro Ala Asn Asp Lys Phe
                              200
 Thr Val Phe Glu Ala Ala Phe Asn Asp Ala Ile Lys Ala Ser Thr Gly
                         215
                                              220
 Gly Ala Tyr Gln Ser Tyr Lys Phe Ile Pro Ala Leu 9/1u Ala Ala Val
                     230
                                          235
 Lys Gln Ser Tyr Ala Ala Thr Val Ala Thr Ala Pro Ala Val Lys Tyr
                 245
                                      250
 Thr Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Thr Ala Met Ser Gln
                                  265
· Ala Gln Lys Ala Ala Lys Pro Ala Ala Ala Ala/Thr Gly Thr Ala Thr
                              280
                                                  285
 Ala Ala Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Ala Gly Gly
                                              300
     290
                          295
 Tyr Lys Val
 305
 <210> 149
 <211> 209
 <212> PRT
 <213> Polistes annularis (Paper wasp)
 <400> 149
 Ser Ser Gln Gly Val Asp Tyr Cys Lys Ile Lys Cys Pro Ser Gly Ile
 His Thr Val Cys Gln Tyr Gly Glu Ser Thr Lys Pro Ser Lys Asn Cys
                                  25
 Ala Gly Lys Val Ile Lys Ser Val Gly Pro Thr Glu Glu Lys Lys
 Leu Ile Val Ser Glu His Asn Afg Phe Arg Gln Lys Val Ala Gln Gly
                          55
 Leu Glu Thr Arg Gly Asn Pro Gly Pro Gln Pro Ala Ala Ser Asp Met
                                          75
 Asn Asp Leu Val Trp Asn Asp Glu Leu Ala His Ile Ala Gln Val Trp
 Ala Ser Gln Cys Gln Phe L∉u Val His Asp Lys Cys Arg Asn Thr Ala
             100
                                  105
 Lys Tyr Pro Val Gly Gln Ásn Ile Ala Tyr Ala Gly Gly Ser Asn Leu
                             120
 Pro Asp Val Val Ser Ley Ile Lys Leu Trp Glu Asn Glu Val Lys Asp
                         135
                                              140
 Phe Asn Tyr Asn Thr G\rlap/y Ile Thr Lys Gln Asn Phe Ala Lys Ile Gly
                      1/50
                                          155
 His Tyr Thr Gln Met $\forall all Trp Gly Lys Thr Lys Glu Ile Gly Cys Gly
                 165
                                      170
 Ser Leu Lys Tyr Met/Glu Asn Asn Met Gln Asn His Tyr Leu Ile Cys
             180
                                  185
 Asn Tyr Gly Pro Ala Gly Asn Tyr Leu Gly Gln Leu Pro Tyr Thr Lys
                              200
```

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<210> 150
<211> 206
<212> PRT
<213> Polistes dominulus (European paper wasp)
<400> 150
Asn Asp Tyr Cys Lys Ile Lys Cys Ser Ser Gly Val/His Thr Val Cys
                                     10
Gln Tyr Gly Glu Ser Thr Lys Pro Ser Lys Asn C√s Ala Gly Lys Leu
Ile Lys Ser Val Gly Pro Thr Glu Glu Glu Lys Lys Leu Ile Val Glu
Glu His Asn Arg Phe Arg Gln Lys Val Ala Ly≸ Gly Leu Glu Thr Arg
Gly Asn Pro Gly Pro Gln Pro Ala Ala Ser Asn Met Asn Asn Leu Val
Trp Asn Asp Glu Leu Ala Lys Ile Ala Gln/Val Trp Ala Ser Gln Cys
                                     90
Gln Ile Leu Val His Asp Lys Cys Arg Ash Thr Glu Lys Tyr Gln Val
            100
                                105
Gly Gln Asn Ile Ala Tyr Ala Gly Ser 🖇er Asn His Phe Pro Ser Val
                            120
                                                 125
Thr Lys Leu Ile Gln Leu Trp Glu Asn/Glu Val Lys Asp Phe Asn Tyr
                        135
                                             140
Asn Thr Gly Ile Thr Asn Lys Asn Ph/e Gly Lys Val Gly His Tyr Thr
                    150
Gln Met Val Trp Gly Asn Thr Lys 
ot\!flu Val Gly Cys Gly Ser Leu Lys
                165
                                     170
Tyr Val Glu Lys Asn Met Gln Ile/His Tyr Leu Ile Cys Asn Tyr Gly
                                185
Pro Ala Gly Asn Tyr Leu Gly Gl/n Pro Ile Tyr Thr Lys Lys
<210> 151
<211> 205
<212> PRT
<213> Polistes exclamans /(Paper wasp)
<400> 151
Val Asp Tyr Cys Lys Ile Lys Cys Pro Ser Gly Ile His Thr Val Cys
                                     10
Gln Tyr Gly Glu Ser Th/r Lys Pro Ser Lys Asn Cys Ala Gly Lys Val
                                25
Ile Lys Ser Val Gly Pro Thr Glu Glu Glu Lys Lys Leu Ile Val Ser
Glu His Asn Arg Phe Arg Gln Lys Val Ala Gln Gly Leu Glu Thr Arg
Gly Asn Pro Gly Prd Gln Pro Ala Ala Ser Asp Met Asn Asp Leu Val
                                         75
Trp Asn Asp Glu Leu Ala His Ile Ala Gln Val Trp Ala Ser Gln Cys
Gln Phe Leu Val His Asp Lys Cys Arg Asn Thr Ala Lys Tyr Pro Val
                                 105
                                                     110
            100
```

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Gly Gln Asn Ile Ala Tyr Ala Gly Gly Ser Lys Leu Pro Asp Val
                            120
                                                 125
Ser Leu Ile Lys Leu Trp Glu Asn Glu Val Lys Asp Phe Asn 🞢
                        135
                                             140
Thr Gly Ile Thr Lys Gln Asn Phe Ala Lys Ile Gly His Type Thr Gln
                    150
Met Val Trp Gly Lys Thr Lys Glu Ile Gly Cys Gly Ser
                                    170
                165
Ile Glu Asn Lys Met Gln Asn His Tyr Leu Ile Cys Ash
                                                     Yryr Gly Pro
                                185
            180
Ala Gly Asn Tyr Leu Gly Gln Leu Pro Tyr Thr Lys I
                            200
<210> 152
<211> 205
<212> PRT
<213> Polistes fuscatus (Paper wasp)
<400> 152
Val Asp Tyr Cys Lys Ile Lys Cys Ser Ser Gl/y Ile His Thr Val Cys
Gln Tyr Gly Glu Ser Thr Lys Pro Ser Lys Asn Cys Ala Asp Lys Val
                                25
Ile Lys Ser Val Gly Pro Thr Glu Glu Glu/Lys Lys Leu Ile Val Asn
                                                 45
Glu His Asn Arg Phe Arg Gln Lys Val A1/a Gln Gly Leu Glu Thr Arg
Gly Asn Pro Gly Pro Gln Pro Ala Ala Ser Asp Met Asn Asn Leu Val
Trp Asn Asp Glu Leu Ala His Ile Ala Gln Val Trp Ala Ser Gln Cys
                                    90
Gln Ile Leu Val His Asp Lys Cys Afrg Asn Thr Ala Lys Tyr Gln Val
                                 105
Gly Gln Asn Ile Ala Tyr Ala Gly/Gly Ser Lys Leu Pro Asp Val Val
                            12Q
Ser Leu Ile Lys Leu Trp Glu Ash Glu Val Lys Asp Phe Asn Tyr Asn
                        135
                                            140
Lys Gly Ile Thr Lys Gln Asn Phe Gly Lys Val Gly His Tyr Thr Gln
                    150
                                        155
Met Ile Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Leu Lys Tyr
                165
                                    170
Met Lys Asn Asn Met Gln Hi$ His Tyr Leu Ile Cys Asn Tyr Gly Pro
                                185
Ala Gly Asn Tyr Leu Gly Gin Leu Pro Tyr Thr Lys Lys
                            200
<210> 153
<211> 160
<212> PRT
<213> Prunus avium (Cherry)
<400> 153
Met Gly Val Phe Thr Tyr Glu Ser Glu Phe Thr Ser Glu Ile Pro Pro
Pro Arg Leu Phe Lys/Ala Phe Val Leu Asp Ala Asp Asn Leu Val Pro
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25
Lys Ile Ala Pro Gln Ala Ile Lys His Ser Glu Ile Leu Glu Ély Asp
Gly Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Gly Glu Gl/y Ser Gln
Tyr Gly Tyr Val Lys His Lys Ile Asp Ser Ile Asp Lys ∕Glu Asn Tyr
Ser Tyr Ser Tyr Thr Leu Ile Glu Gly Asp Ala Leu Gly Asp Thr Leu
                                     90
Glu Lys Ile Ser Tyr Glu Thr Lys Leu Val Ala Ser Pro Ser Gly Gly
                                 105
            100
Ser Ile Ile Lys Ser Thr Ser His Tyr His Thr Lys Gly Asn Val Glu
                                                 125
Ile Lys Glu Glu His Val Lys Ala Gly Lys Glu 🏿 ys Ala Ser Asn Leu
                        135
Phe Lys Leu Ile Glu Thr Tyr Leu Lys Gly His Pro Asp Ala Tyr Asn
<210> 154
<211> 181
<212> PRT
<213> Rattus norvegicus (Rat)
<400> 154
Met Lys Leu Leu Leu Leu Cys/Leu Gly Leu Thr Leu Val Cys
Gly His Ala Glu Glu Ala Ser Ser Th/r Arg Gly Asn Leu Asp Val Ala
Lys Leu Asn Gly Asp Trp Phe Ser 1/1e Val Val Ala Ser Asn Lys Arg
Glu Lys Ile Glu Glu Asn Gly Ser Met Arg Val Phe Met Gln His Ile
Asp Val Leu Glu Asn Ser Leu Gly Phe Lys Phe Arg Ile Lys Glu Asn
                                         7.5
                    70
Gly Glu Cys Arg Glu Leu Tyr ⊈eu Val Ala Tyr Lys Thr Pro Glu Asp
Gly Glu Tyr Phe Val Glu Tyr/Asp Gly Gly Asn Thr Phe Thr Ile Leu
                                 105
Lys Thr Asp Tyr Asp Arg Ty\!\!\!/\!\!\!\!/ r Val Met Phe His Leu Ile Asn Phe Lys
                            120
Asn Gly Glu Thr Phe Gln Leu Met Val Leu Tyr Gly Arg Thr Lys Asp
Leu Ser Ser Asp Ile Lys Glu Lys Phe Ala Lys Leu Cys Glu Ala His
                    150
                                         155
Gly Ile Thr Arg Asp Asn/ Ile Ile Asp Leu Thr Lys Thr Asp Arg Cys
Leu Gln Ala Arg Gly
            180
<210> 155
<211> 138
<212> PRT
<213> Solenopsis invicta (Red imported fire ant)
<400> 155
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Met Lys Ser Phe Val Leu Ala Thr Cys Leu Leu Gly Phe Ala Gln Ile
Ile Tyr Ala Asp Asn Lys Glu Leu Lys Ile Ile Arg Lys Asp /Val Ala
Glu Cys Leu Arg Thr Leu Pro Lys Cys Gly Asn Gln Pro A≸p Asp Pro
Leu Ala Arq Val Asp Val Trp His Cys Ala Met Ala Lys/Arg Gly Val
Tyr Asp Asn Pro Asp Pro Ala Val Ile Lys Glu Arg Sér Met Lys Met
                    70
Cys Thr Lys Ile Ile Thr Asp Pro Ala Asn Val Glu Asn Cys Lys Lys
                                    90
Val Ala Ser Arg Cys Val Asp Arg Glu Thr Gln G/1 y Pro Lys Ser Asn
                                105
Arg Gln Lys Ala Val Asn Ile Ile Gly Cys Ala/Leu Arg Ala Gly Val
Ala Glu Thr Thr Val Leu Ala Arg Lys Lys
                        135
    130
<210> 156
```

<211> 212 <212> PRT

<213> Solenopsis invicta (Red import#d fire ant)

<400> 156 Thr Asn Tyr Cys Asn Leu Gln Ser Cys Lys Arg Asn Asn Ala Ile His Thr Met Cys Gln Tyr Thr Ser Pro Thr Pro Gly Pro Met Cys Leu Glu Tyr Ser Asn Val Gly Phe Thr Asp/Ala Glu Lys Asp Ala Ile Val Asn Lys His Asn Glu Leu Arg Gln Arg Val Ala Ser Gly Lys Glu Met Arg Gly Thr Asn Gly Pro Gln Pro Pro Ala Val Lys Met Pro Asn Leu Thr Trp Asp Pro Glu Leu Ala Thr/Ile Ala Gln Arg Trp Ala Asn Gln Cys 90 85 Thr Phe Glu His Asp Ala Cy\$ Arg Asn Val Glu Arg Phe Ala Val Gly Gln Asn Ile Ala Ala Thr S∉r Ser Ser Gly Lys Asn Lys Ser Thr Pro 120 Asn Glu Met Ile Leu Leu ‡rp Tyr Asn Glu Val Lys Asp Phe Asp Asn 140 Arg Trp Ile Ser Ser Phe/Pro Ser Asp Asp Asn Ile Leu Met Lys Val 155 Glu His Tyr Thr Gln Il¢ Val Trp Ala Lys Thr Ser Lys Ile Gly Cys 170 165 Ala Arg Ile Met Phe Lys Glu Pro Asp Asn Trp Thr Lys His Tyr Leu 185

Val Cys Asn Tyr Gly Pro Ala Gly Asn Val Leu Gly Ala Pro Ile Tyr 200

<210> 157

180

195 Glu Ile Lys Lys 210

```
<211> 117
<212> PRT
<213> Solenopsis invicta (Red imported fire ant)
Leu Asp Ile Lys Glu Ile Ser Ile Met Asn Arg Ile Leu Glu/Lys Cys
Ile Arg Thr Val Pro Lys Arg Glu Asn Asp Pro Ile Asn Pro Leu Lys
                                 25
Asn Val Asn Val Leu Tyr Cys Ala Phe Thr Lys Arg Gly/Ile Phe Thr
                            40
Pro Lys Gly Val Asn Thr Lys Gln Tyr Ile Asn Tyr Cys Glu Lys Thr
Ile Ile Ser Pro Ala Asp Ile Lys Leu Cys Lys Lys Ile Ala Ser Lys
Cys Val Lys Lys Val Tyr Asp Arg Pro Gly Pro Val Ile Glu Arg Ser
                                     90
Lys Asn Leu Leu Ser Cys Val Leu Lys Lys Gly/Leu Leu Glu Leu Thr
                                105
            100
Val Tyr Gly Lys Asn
        115
<210> 158
<211> 119
<212> PRT
<213> Solenopsis richteri (Black imported fire ant)
<400> 158
Asp Ile Glu Ala Gln Arg Val Leu Arg/Lys Asp Ile Ala Glu Cys Ala
Arg Thr Leu Pro Lys Cys Val Asn Glf Pro Asp Asp Pro Leu Ala Arg
Val Asp Val Trp His Cys Ala Met 	extit{/}{g}er Lys Arg Gly Val Tyr Asp Asn
Pro Asp Pro Ala Val Val Lys Glu/Lys Asn Ser Lys Met Cys Pro Lys
                        55
Ile Ile Thr Asp Pro Ala Asp Val Glu Asn Cys Lys Lys Val Val Ser
                                         75
Arg Cys Val Asp Arg Glu Thr Sin Arg Pro Arg Ser Asn Arg Gln Lys
Ala Ile Asn Ile Thr Gly Cy Ile Leu Arg Ala Gly Val Val Glu Ala
                                 105
            100
Thr Val Leu Ala Arg Glu L/s
        115
<210> 159
<211> 211
<212> PRT
<213> Solenopsis richteri (Black imported fire ant)
<400> 159
Thr Asn Tyr Cys As\eta Leu Gln Ser Cys Lys Arg Asn Asn Ala Ile His
Thr Met Cys Gln Tyr Thr Ser Pro Thr Pro Gly Pro Met Cys Leu Glu
            20
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Tyr Ser Asn Val Gly Phe Thr Asp Ala Glu Lys Asp Ala Ile Val Ásn
Lys His Asn Glu Leu Arg Gln Arg Val Ala Ser Gly Lys Glu Met Arg
Gly Thr Asn Gly Pro Gln Pro Pro Ala Val Lys Met Pro Asn/Leu Thr
                                         75
Trp Asp Pro Glu Leu Ala Thr Ile Ala Gln Arg Trp Ala Asn Gln Cys
                                     90
Thr Phe Glu His Asp Ala Cys Arg Asn Val Glu Arg Phe Ala Val Gly
                                 105
                                                      110
            100
Gln Asn Ile Ala Ala Thr Ser Ser Ser Gly Lys Asn Lys Ser Thr Leu
                             120
                                                  125
Ser Asp Met Ile Leu Leu Trp Tyr Asn Glu Val Lys Asp Phe Asp Asn
                         135
Arg Trp Ile Ser Ser Phe Pro Ser Asp Gly Asn fle Leu Met His Val
                    150
Gly His Tyr Thr Gln Ile Val Trp Ala Lys Thm{f} Lys Lys Ile Gly Cys
                165
                                     170
Gly Arg Ile Met Phe Lys Glu Asp Asn Trp Asn Lys His Tyr Leu Val
                                 185
            180
Cys Asn Tyr Gly Pro Ala Gly Asn Val Leu/Gly Ala Gln Ile Tyr Glu
                             200
        195
Ile Lys Lys
    210
<210> 160
<211> 202
<212> PRT
<213> Vespa crabro (European hornet)
<400> 160
Asn Asn Tyr Cys Lys Ile Lys Cys/Arg Ser Gly Ile His Thr Leu Cys
Lys Tyr Gly Thr Ser Thr Lys Pr/o Asn Cys Gly Lys Asn Val Val Lys
                                 25
Ala Ser Gly Leu Thr Lys Gln $\oldsymbol{\psi}$lu Asn Leu Glu Ile Leu Lys Gln His
                             40
Asn Glu Phe Arg Gln Lys Val/Ala Arg Gly Leu Glu Thr Arg Gly Asn
Pro Gly Pro Gln Pro Pro Ala Lys Ser Met Asn Thr Leu Val Trp Asn
Asp Glu Leu Ala Gln Ile Ala Gln Val Trp Ala Asn Gln Cys Asn Tyr
                                     90
Gly His Asp Asn Cys Arg/ Asn Ser Ala Lys Tyr Ser Val Gly Gln Asn
                                 105
Ile Ala Glu Gly Ser Thr Thr Ala Asp Asn Phe Gly Ser Val Ser Asn
                             120
                                                  125
Met Val Lys Met Trp $\oldsymbol{G}\text{lu Asp Glu Val Lys Asp Tyr Gln Tyr Gly Ser
                                              140
                         135
Pro Lys Asn Lys Leu/Asn Lys Val Gly His Tyr Thr Gln Met Val Trp
                    150
                                         155
Ala Lys Thr Lys Gl/u Ile Gly Cys Gly Ser Ile Lys Tyr Ile Glu Asn
                                     170
Gly Trp His Arg His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn
            180
Val Gly Asn Glu/Pro Ile Tyr Glu Arg Lys
```

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<210> 161
<211> 2.02
<212> PRT
<213> Vespa crabro (European hornet)
<400> 161
Asn Asn Tyr Cys Lys Ile Lys Cys Arg Ser Gly Ile His Thr Leu Cys
                                   10
Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Lys Asn Val Val Lys
Ala Ser Gly Leu Thr Lys Gln Glu Asn Leu Gly Ile Leu Lys Gln His
Asn Glu Phe Arg Gln Lys Val Ala Arg Gly Leu Glu Thr Arg Gly Asn
Pro Gly Pro Gln Pro Pro Ala Lys Ser Met/Asn Thr Leu Val Trp Asn
Asp Glu Leu Ala Gln Ile Ala Gln Val T#p Ala Asn Gln Cys Asn Tyr
Gly His Asp Asn Cys Arg Asn Ser Ala/Lys Tyr Ser Val Gly Gln Asn
                               105
           100
Ile Ala Glu Gly Ser Thr Ser Ala Asp Asn Phe Val Asn Val Ser Asn
                           120
Met Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Gln Tyr Gly Ser
                       135
Pro Lys Asn Lys Leu Asn Lys Val/Gly His Tyr Thr Gln Met Val Trp
                   150
Ala Lys Thr Lys Glu Ile Gly C½s Gly Ser Glu Asp Tyr Ile Glu Asp
                                   170
               165
Gly Trp His Arg His Tyr Leu/Val Cys Asn Tyr Gly Pro Ala Gly Asn
                              185
           180
Val Gly Asn Glu Pro Ile Ty/r Glu Arg Lys
                           200
<210> 162
<211> 204
<212> PRT
<213> Vespula flavopim{i}osa (Yellow jacket) (Wasp)
<400> 162
Asn Asn Tyr Cys Lys/Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
Ser Tyr Gly Leu Thr Lys Gln Glu Lys Gln Asp Ile Leu Lys Glu His
Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn
                       55
Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Asn
```

Asp Glu Leu Al∕a Tyr Val Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr

Gly His Asp Thr Cys Arg Asp Ile Ala Lys Tyr Gln Val Gly Gln Asn

```
Val Ala Leu Thr Gly Ser Thr Ala Ala Lys Tyr Asp Asp Pro Val Zys
                            120
Leu Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro Lys Lys
                        135
                                             140
Lys Phe Ser Gly Asn Asn Phe Leu Lys Thr Gly His Tyr Thr Gln Met
                    150
Val Trp Ala Asn Thr Lys Glu Val Gly Cys Gly Ser Ile Lys Phe Ile
                                    170
                165
Gln Glu Lys Trp His Lys His Tyr Leu Val Cys Asn Tyr/Gly Pro Ser
            180
                                185
Gly Asn Phe Gln Asn Glu Glu Leu Tyr Gln Thr Lys
                            200
<210> 163
<211> 204
<212> PRT
<213> Vespula germanica (Yellow jacket) (Wasp)
<400> 163
Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys G/y Gly Val His Thr Ala
                                    10
Cys Lys Tyr Glu Ser Leu Lys Pro Asn Cys Ala Asn Lys Lys Val Val
                                25
Ala Tyr Gly Leu Thr Lys Gln Glu Lys Gln Asp Ile Leu Lys Glu His
                            40
Asn Asp Phe Arg Gln Lys Ile Ala Arg GAy Leu Glu Thr Arg Gly Asn
Pro Gly Pro Gln Pro Pro Ala Lys Asn/Met Lys Asn Leu Val Trp Ser
Asp Glu Leu Ala Tyr Ile Ala Gln Va/1 Trp Ala Asn Gln Cys Gln Tyr
                                    90
Gly His Asp Thr Cys Arg Asp Val #la Lys Tyr Pro Val Gly Gln Asn
            100
                                 105
Val Ala Leu Thr Gly Ser Thr Ala/Ala Lys Tyr Asp Asn Pro Val Lys
Leu Val Lys Met Trp Glu Asp Gl/u Val Lys Asp Tyr Asn Pro Lys Lys
                                             140
                        135
Lys Phe Ser Glu Asn Asn Phe ↓eu Lys Ile Gly His Tyr Thr Gln Met
                    150
                                         155
Val Trp Ala Asn Thr Lys Glu/Val Gly Cys Gly Ser Ile Lys Tyr Ile
                                    170
Gln Asp Lys Trp His Lys His Tyr Leu Val Cys Asn Tyr Gly Pro Ser
                                185
            180
Gly Asn Phe Gly Asn Glu Glu Leu Tyr Gln Thr Lys
                            200
<210> 164
<211> 300
<212> PRT
<213> Vespula maculiffons (Eastern yellow jacket) (Wasp)
<400> 164
Gly Pro Lys Cys Pro/Phe Asn Ser Asp Thr Val Ser Ile Ile Glu
Thr Arg Glu Asn Arg Asn Arg Asp Leu Tyr Thr Leu Gln Thr Leu Gln
```

25 20 Asn His Pro Glu Phe Lys Lys Lys Thr Ile Thr Arg Pro Va/1 Val Phe Ile Thr His Gly Phe Thr Ser Ser Ala Ser Glu Lys Asn/Phe Ile Asn 55 Leu Ala Lys Ala Leu Val Asp Lys Asp Asn Tyr Met Val Ile Ser Ile 70 Asp Trp Gln Thr Ala Ala Cys Thr Asn Glu Tyr Pro/Gly Leu Lys Tyr 90 Ala Tyr Tyr Pro Thr Ala Ala Ser Asn Thr Arg L∲u Val Gly Gln Tyr 105 110 100 Ile Ala Thr Ile Thr Gln Lys Leu Val Lys Asp/Tyr Lys Ile Ser Met 120 Ala Asn Ile Arg Leu Ile Gly His Ser Leu G/Zy Ala His Val Ser Gly 135 Phe Ala Gly Lys Arg Val Gln Glu Leu Lys/Leu Gly Lys Tyr Ser Glu 150 155 Ile Ile Gly Leu Asp Pro Ala Arg Pro Sér Phe Asp Ser Asn His Cys Ser Glu Arg Leu Cys Glu Thr Asp Ala/Glu Tyr Val Gln Ile Ile His 185 180 Thr Ser Asn Tyr Leu Gly Thr Glu Lys Ile Leu Gly Thr Val Asp Phe 200 Tyr Met Asn Asn Gly Lys Asn Asn Pro Gly Cys Gly Arg Phe Phe Ser 215 220 Glu Val Cys Ser His Thr Arg Ala Val Ile Tyr Met Ala Glu Cys Ile 235 230 Lys His Glu Cys Cys Leu Ile 🕅 Ile Pro Arg Ser Lys Ser Ser Gln Pro Ile Ser Arg Cys Thr Ly\$ Gln Glu Cys Val Cys Val Gly Leu Asn 265 Ala Lys Lys Tyr Pro Ser Arg Gly Ser Phe Tyr Val Pro Val Glu Ser 280 Thr Ala Pro Phe Cys Asn/Asn Lys Gly Lys Ile Ile 290 295 <210> 165

<210> 165 <211> 204 <212> PRT

<213> Vespula maculifrons (Eastern yellow jacket) (Wasp)

 <400> 165

 Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala

 1
 10

 Cys Lys Tyr Gly Ser Leu Lys Pro Asn Cys Gly Asn Lys Lys Val Val

 20
 25

 Ser Tyr Gly Leu Thr Lys Gln Glu Lys Gln Asp Ile Leu Lys Glu His

 35
 40

 Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn

 50
 55

 Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Ser

 65
 70

 Asp Glu Leu Ala Tyr Ile Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr

 85
 90

 Gly His Asp Thr Cys Arg Asp Val Ala Lys Tyr Gln Val Gly Gln Asn

 100

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      Val
      Ala
      Leu
      Thr
      Gly
      Ser
      Thr
      Ala
      Ala
      Val
      Tyr
      Asn
      Asp
      Pro
      Val
      Lys

      Leu
      Val
      Lys
      Met
      Trp
      Glu
      Asp
      Glu
      Val
      Lys
      Asp
      Tyr
      Asn
      Pro
      Lys
      Lys
      Lys
      Lys
      Tyr
      Thr
      Gln
      Met
      155
      160
      Met
      140
      155
      160
      Met
      140
      155
      160
      Met
      140
      155
      160
      Met
      160
      160
      Met
      160
      170
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      190
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Ser Tyr Gly Leu Thr Lys Glu Glu Lys Gln Asp Ile Leu Lys Glu His Asn Asp Phe Arg Gln Lys Ile Ala Arg Gl∳ Leu Glu Thr Arg Gly Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Asn Asp Glu Leu Ala Tyr Val Ala Gln Val/Trp Ala Asn Gln Cys Gln Tyr Gly His Asp Thr Cys Arg Asp Val Al/a Lys Tyr Pro Val Gly Gln Asn Val Ala Leu Thr Gly Ser Thr Ala Asp Lys Tyr Asp Asn Pro Val Lys 120 Leu Val Lys Met Trp Glu Asp Glu/Val Lys Asp Tyr Asn Pro Lys Lys 135 140 Lys Phe Ser Glu Asn Asn Phe Ash Lys Ile Gly His Tyr Thr Gln Met 150 Val Trp Ala Asn Thr Lys Glu ∤le Gly Cys Gly Ser Ile Lys Tyr Ile 170 Gln Asn Glu Trp His Lys His/Tyr Leu Val Cys Asn Tyr Gly Pro Ser Gly Asn Phe Gly Asn Glu Gl# Leu Tyr Gln Thr Lys

195 / 200 <210> 167

<210> 167 <211> 205

<212> PRT

<213> Vespula squamosa / (Southern yellow jacket) (Wasp)

<400> 167

Val Asp Tyr Cys Lys I te Lys Cys Leu Lys Gly Gly Val His Thr Ala 1 5 10 15 Cys Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Asn Met Val Val

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25
Lys Ser Tyr Gly Val Thr Gln Ala Glu Lys Gln Glu Ile Leu Lys Ile
His Asn Asp Phe Arg Asn Lys Val Ala Arg Gly Leu Glu Thr/Arg Gly
Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Asn Asn Leu Val Trp
Asn Asn Glu Leu Ala Asn Ile Ala Gln Ile Trp Ala Sex Gln Cys Lys
                                    90
Tyr Gly His Asp Thr Cys Lys Asp Thr Thr Lys Tyr Asn Val Gly Gln
                                105
                                                    110
            100
Asn Ile Ala Val Ser Ser Ser Thr Ala Ala Val Tyr Glu Asn Val Gly
                            120
Asn Leu Val Lys Ala Trp Glu Asn Glu Val Lys Asp Phe Asn Pro Thr
                        135
Ile Ser Trp Glu Gln Asn Glu Phe Lys Lys I /e Gly His Tyr Thr Gln
                    150
Met Val Trp Ala Lys Thr Lys Glu Ile Gly/Cys Gly Ser Ile Lys Tyr
Val Asp Asn Asn Trp Tyr Thr His Tyr Letu Val Cys Asn Tyr Gly Pro
                                185
Ala Gly Asn Phe Gly Asn Gln Glu Val /Tyr Glu Arg Lys
                            200
<210> 168
<211> 336
<212> PRT
<213> Vespula vulgaris (Yellow jacket) (Wasp)
<400> 168
Met Glu Glu Asn Met Asn Ley Lys Tyr Leu Leu Phe Val Tyr Phe
Val Gln Val Leu Asn Cys C∦s Tyr Gly His Gly Asp Pro Leu Ser Tyr
Glu Leu Asp Arg Gly Pro/Lys Cys Pro Phe Asn Ser Asp Thr Val Ser
Ile Ile Ile Glu Thr Ar¢ Glu Asn Arg Asn Arg Asp Leu Tyr Thr Leu
Gln Thr Leu Gln Asn #is Pro Glu Phe Lys Lys Lys Thr Ile Thr Arg
Pro Val Val Phe Ile Thr His Gly Phe Thr Ser Ser Ala Ser Glu Thr
Asn Phe Ile Asn Leu Ala Lys Ala Leu Val Asp Lys Asp Asn Tyr Met
            100
                                105
Val Ile Ser Ile Asp Trp Gln Thr Ala Ala Cys Thr Asn Glu Ala Ala
                            120
Gly Leu Lys Tyr/Leu Tyr Tyr Pro Thr Ala Ala Arg Asn Thr Arg Leu
                        135
Val Gly Gln Tyr Ile Ala Thr Ile Thr Gln Lys Leu Val Lys His Tyr
                                        155
                    150
Lys Ile Ser Met Ala Asn Ile Arg Leu Ile Gly His Ser Leu Gly Ala
                                    170
His Ala Ser/Gly Phe Ala Gly Lys Lys Val Gln Glu Leu Lys Leu Gly
                                185
Lys Tyr Ser Glu Ile Ile Gly Leu Asp Pro Ala Arg Pro Ser Phe Asp
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Ser Asn His Cys Ser Glu Arg Leu Cys Glu Thr Asp Ala Glu Tyr Val
                                             220
Gln Ile Ile His Thr Ser Asn Tyr Leu Gly Thr Glu Lys Thr/Leu Gly
                    230
                                         235
Thr Val Asp Phe Tyr Met Asn Asn Gly Lys Asn Gln Pro G∤y Cys Gly
                                     250
Arg Phe Phe Ser Glu Val Cys Ser His Ser Arg Ala Val/Ile Tyr Met
            260
                                 265
Ala Glu Cys Ile Lys His Glu Cys Cys Leu Ile Gly I∤e Pro Lys Ser
                             280
Lys Ser Ser Gln Pro Ile Ser Ser Cys Thr Lys Gln/Glu Cys Val Cys
                        295
Val Gly Leu Asn Ala Lys Lys Tyr Pro Ser Arg G\notIy Ser Phe Tyr ar{V}al
                                         315
                    310
Pro Val Glu Ser Thr Ala Pro Phe Cys Asn Asn/Lys Gly Lys Ile Ile
                                     330
                325
<210> 169
<211> 331
<212> PRT
<213> Vespula vulgaris (Yellow jacket) /(Wasp)
<400> 169
Ser Glu Arg Pro Lys Arg Val Phe Asn Ile Tyr Trp Asn Val Pro Thr
Phe Met Cys His Gln Tyr Asp Leu Tyr Phe Asp Glu Val Thr Asn Phe
Asn Ile Lys Arg Asn Ser Lys Asp Asp/ Phe Gln Gly Asp Lys Ile Ala
                             40
Ile Phe Tyr Asp Pro Gly Glu Phe Prb Ala Leu Leu Ser Leu Lys Asp
Gly Lys Tyr Lys Lys Arg Asn Gly Giv Val Pro Gln Glu Gly Asn Ile
                                         75
                    70
Thr Ile His Leu Gln Lys Phe Ile $\oldsymbol{f}\text{lu Asn Leu Asp Lys Ile Tyr Pro}
                                     90
                85
Asn Arg Asn Phe Ser Gly Ile Gly/Val Ile Asp Phe Glu Arg Trp Arg
                                                      110
                                 105
Pro Ile Phe Arg Gln Asn Trp Gly Asn Met Lys Ile His Lys Asn Phe
Ser Ile Asp Leu Val Arg Asn Glu His Pro Thr Trp Asn Lys Lys Met
                         135
Ile Glu Leu Glu Ala Ser Lys Afrg Phe Glu Lys Tyr Ala Arg Phe Phe
                                         155
                    150
Met Glu Glu Thr Leu Lys Leu Ala Lys Lys Thr Arg Lys Gln Ala Asp
                                     170
                165
Trp Gly Tyr Tyr Gly Tyr Pro/Tyr Cys Phe Asn Met Ser Pro Asn Asn
                                 185
Leu Val Pro Glu Cys Asp Va∤ Thr Ala Met His Glu Asn Asp Lys Met
                             200
Ser Trp Leu Phe Asn Asn G∜n Asn Val Leu Leu Pro Ser Val Tyr Val
                                             220
Arg Gln Glu Leu Thr Pro Asp Gln Arg Ile Gly Leu Val Gln Gly Arg
                                         235
                    230
Val Lys Glu Ala Val Arg | Lee Ser Asn Asn Leu Lys His Ser Pro Lys
                 245
Val Leu Ser Tyr Trp Trp/Tyr Val Tyr Gln Asp Glu Thr Asn Thr Phe
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265
            260
Leu Thr Glu Thr Asp Val Lys Lys Thr Phe Gln Glu Ile Val Ile Asn
Gly Gly Asp Gly Ile Ile Ile Trp Gly Ser Ser Ser Asp Val Asn Ser
                        295
                                             300
Leu Ser Lys Cys Lys Arg Leu Gln Asp Tyr Leu Leu Thr Va/1 Leu Gly
                    310
Pro Ile Ala Ile Asn Val Thr Glu Ala Val Asn
<210> 170
<211> 227
<212> PRT
<213> Vespula vulgaris (Yellow jacket) (Wasp)
<400> 170
Met Glu Ile Ser Gly Leu Val Tyr Leu Ile Ile/Ile Val Thr Ile Ile
Asp Leu Pro Tyr Gly Lys Ala Asn Asn Tyr Cy$ Lys Ile Lys Cys Leu
                                25
Lys Gly Gly Val His Thr Ala Cys Lys Tyr G∤y Ser Leu Lys Pro Asn
Cys Gly Asn Lys Val Val Ser Tyr Gly Leu Thr Lys Gln Glu Lys
                        55
                                             60
Gln Asp Ile Leu Lys Glu His Asn Asp Phe/Arg Gln Lys Ile Ala Arg
Gly Leu Glu Thr Arg Gly Asn Pro Gly Prd Gln Pro Pro Ala Lys Asn
Met Lys Asn Leu Val Trp Asn Asp Glu Leu Ala Tyr Val Ala Gln Val
                                105
            100
Trp Ala Asn Gln Cys Gln Tyr Gly His Asp Thr Cys Arg Asp Val Ala
                            120
Lys Tyr Gln Val Gly Gln Asn Val Ala /Leu Thr Gly Ser Thr Ala Ala
                        135
                                             140
Lys Tyr Asp Asp Pro Val Lys Leu Val/ Lys Met Trp Glu Asp Glu Val
                    150
                                         155
Lys Asp Tyr Asn Pro Lys Lys Phe Ser Gly Asn Asp Phe Leu Lys
                                    170
Thr Gly His Tyr Thr Gln Met Val Trp Ala Asn Thr Lys Glu Val Gly
            180
Cys Gly Ser Ile Lys Tyr Ile Gln $\textit{flu Lys Trp His Lys His Tyr Leu}
                            200
Val Cys Asn Tyr Gly Pro Ser Gly/Asn Phe Met Asn Glu Glu Leu Tyr
                                             220
                        215
    210
Gln Thr Lys
225
<210> 171
<211> 206
<213> Vespula vidua (Yellow/jacket) (Wasp)
<400> 171
Lys Val Asn Tyr Cys Lys Il¢ Lys Cys Leu Lys Gly Gly Val His Thr
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Ala Cys Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Lys Met Val
Val Lys Ala Tyr Gly Leu Thr Glu Ala Glu Lys Gln Glu Ile Leu Lys
                            40
Val His Asn Asp Phe Arg Gln Lys Val Ala Lys Gly Leu Gly Thr Arg
Gly Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Asn Asn Leu Val
                    70
Trp Asn Asp Glu Leu Ala Asn Ile Ala Gln Val Trp Ala Ser Gln Cys
                                    90
                85
Asn Tyr Gly His Asp Thr Cys Lys Asp Thr Glu Lys Tyr Pro Val Gly
            100
                                105
Gln Asn Ile Ala Lys Arg Ser Thr Thr Ala Ala Leu/Phe Asp Ser Pro
                            120
Gly Lys Leu Val Lys Met Trp Glu Asn Glu Val Lys Asp Phe Asn Pro
                        135
Asn Ile Glu Trp Ser Lys Asn Asn Leu Lys Lys Thr Gly His Tyr Thr
                                        155
                    150
Gln Met Val Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Val Lys
                                    170
                165
Tyr Val Lys Asp Glu Trp Tyr Thr His Tyr Lev Val Cys Asn Tyr Gly
                                185
Pro Ser Gly Asn Phe Arg Asn Glu Lys Leu Tyr Glu Lys Lys
                            200
<210> 172
<211> 202
<212> PRT
<213> Vespa mandarinia (Hornet)
<400> 172
Asn Asn Tyr Cys Lys Ile Lys Cys Arg/Ser Gly Ile His Thr Leu Cys
                                    10
Lys Phe Gly Ile Ser Thr Lys Pro Asm Cys Gly Lys Asn Val Val Lys
Ala Ser Gly Leu Thr Lys Ala Glu Lys Leu Glu Ile Leu Lys Gln His
                            40
Asn Glu Phe Arg Gln Lys Val Ala Arg Gly Leu Glu Thr Arg Gly Lys
Pro Gly Pro Gln Pro Pro Ala Lys/Ser Met Asn Thr Leu Val Trp Asn
                    70
                                        75
Asp Glu Leu Ala Gln Ile Ala Gln Val Trp Ala Gly Gln Cys Asp Tyr
Gly His Asp Val Cys Arg Asn Thr Ala Lys Tyr Ser Val Gly Gln Asn
                                105
                                                     110
Ile Ala Glu Asn Gly Ser Thr Ala Ala Ser Phe Ala Ser Val Ser Asn
Met Val Gln Met Trp Ala Asp Glu Val Lys Asn Tyr Gln Tyr Gly Ser
                        135
                                            140
Thr Lys Asn Lys Leu Ile Glu/Val Gly His Tyr Thr Gln Met Val Trp
                    150
                                        155
Ala Lys Thr Lys Glu Ile Gl/y Cys Gly Ser Ile Lys Tyr Ile Glu Asn
                                    170
Gly Trp His Arg His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn
            180
Ile Gly Asn Glu Pro Ile Tyr Glu Arg Lys
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<210> 173
<211> 191
<212> PRT
<213> Zea mays (Maize)
<400> 173
Met Thr Ala Cys Gly Asn Val Pro Ile Phe Lys Asp Gly Lys Gly Cys
                                     10
Gly Ser Cys Tyr Glu Val Arg Cys Lys Glu Lys Pro G∤u Cys Ser Gly
                                 25
Asn Pro Val Thr Val Phe Ile Thr Asp Met Asn Tyr Glu Pro Ile Ala
Pro Tyr His Phe Asp Leu Ser Gly Lys Ala Phe Gl∳ Ser Leu Ala Lys
Pro Gly Leu Asn Asp Lys Leu Arg His Cys Gly I/1e Met Asp Val Glu
                                         75
Phe Arg Arg Val Arg Cys Lys Tyr Pro Ala Gly 5In Lys Ile Val Phe
His Ile Glu Lys Gly Cys Asn Pro Asn Tyr Val/Ala Val Leu Val Lys
                                 105
Phe Val Ala Asp Asp Gly Asp Ile Val Leu Me/t Glu Ile Gln Asp Lys,
                                                 125
                            120
Leu Ser Ala Glu Trp Lys Pro Met Lys Leu Ser Trp Gly Ala Ile Trp
                                             140
Arg Met Asp Thr Ala Lys Ala Leu Lys Gly /Pro Phe Ser Ile Arg (Leu
                                         155
Thr Ser Glu Ser Gly Lys Lys Val Ile Ala Lys Asp Ile Ile Pro Ala
                165
Asn Trp Arg Pro Asp Ala Val Tyr Thr Ser Asn Val Gln Phe Tyr
                                 185
<210> 174
<211> 73
<212> DNA
<213> Unknown
<220>
<223> Primer sequence
<400> 174
gctcgagggt ggaggcggtt caggcggagg tggctctggc ggtggcggat cgttcacccc 60
gcccaccgtg aag
<210> 175
<211> 33
<212> DNA
<213> Unknown
<220>
<223> Primer sequence
<400> 175
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ggcggccgct catttaccgg gatt/tacaga cac

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<210> 176
<211> 32
<212> PRT
<213> Homo sapiens
<220>
<221> UNSURE
<222> 1, 4, 11, 12, 27, 30
<223> Xaa = any amino acid
<400> 176
Xaa Gln Gln Xaa Glu Leu Gln Asp Leu Glu Xaa Xaa/Gln Ser Gln Leu
                                     10
Glu Asp Ala Asn Leu Arg Pro Arg Glu Gln Xaa Leu Met Xaa Lys Ile
                                 25
<210> 177
<211> 32
<212> PRT
<213> Homo sapiens
<220>
<221> UNSURE
<222> 1, 4, 8, 10, 11, 12, 27, 30
<223> Xaa = any amino acid
<400> 177
Xaa Gln Gln Xaa Glu Leu Gln Xaa Asp Xaa Xaa Xaa Gln Ser Gln Leu
1
Glu Arg Ala Asp Leu Arg Pro Gly Glu dln Xaa Leu Met Xaa Lys Ile
                                 25
W:\DOCS\BGY\SEQUENCE LISTING\UC67.003 .doc
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